

ENVIRONMENTAL POLICY AND THE EMERGENCE OF THE INCINERATION
INDUSTRY: A CASE STUDY OF BEIJING, CHINA, 1989-2012

A Dissertation

by

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ABSTRACT

This research uses the emergence of the Chinese incineration industry as a case study to examine changes in environmental policies in China from 1989–2012. Three prevailing models have an unsolved question about which actors contribute to Chinese environmental policies. The citizenship awareness model suggests that environmental non-governmental organizations can promote environmental regulations. Environmental authoritarianism argues that the Chinese state maintains capacities to improve the environment. The industrial environmental management model points out that proliferation of private regulations can reduce pollution. However, the above models do not explain why these actors' efforts of reducing pollution cannot prevent environmental deterioration produced by the rapid economic growth.

Using the organizational-political economy perspective, this research argues that the ability of actors to influence policies are historical variations. I evaluate Chinese environmental policies in three periods. The first period from 1989–1997 passed the marketization reform of the environmental policy strategy. The second period 1997–2007 passed BOT public utilities and the renewable energy law. The third period from 2008–2012 passed incinerator increasing rates and feed-in tariffs. There are four findings: (1) changes in political and economic stability affects the state managers and social actors to support state general agendas in crises or pursue their interests in economic growth; (2) the ability to access the state structures provides channels social actors to influence policies; (3) the ability to form political coalitions allows social actors to mitigate internal

conflicts and exercise power; and (4) social actors who are able to evaluate the historical variations in neo-liberalism can define policies that align with the neo-liberal or alternative agendas. This research demonstrates that the state and society are embedded and cannot separated from one another during decision-making processes. Furthermore, this research illuminates that the Chinese incineration market could not be created and operated without politics. Incineration corporations' involvement into environmental policies focused on market expansion policies and ignored to protect the environment.

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NOMENCLATURE

ACCA	Administrative Center for China's Agenda 21
BOT	Build-Operate-Transfer
BCSD	Business Council for Sustainable Development
CFBC	Circulating Fluidized-Bed Combustion
EIA	Environmental Impact Assessment
ENGO	Environmental Non-governmental Organization
GDP	Gross Domestic Product
IPP	Independent Power Plant
LULU	Locally Unwanted Land Use
MAFMPU	Measures for the Administration on the Franchise of Municipal Public Utilities
MNC	Multinational Corporation
NIMBY	Not In My Back Yard
OIMP	Opinion for Increase in Marketization processes of Municipal Public Utilities
PPP	Public-private Partnership
SOE	State-owned Enterprise
TMMPAC	Trial Measures for the Management of Prices and Allocation of Costs for Electricity Generated from Renewable Energy
UN	United Nations
UNCED	United Nations Conference on Environment and Development

WTO

World Trade Organization

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CHAPTER I

INTRODUCTION

INTRODUCTION

Since the economic reform of 1979 in China, the replacement of the planned economy of the Mao era with the market economy, labelled market socialism has created economic growth (Guo 2013). In 2010, China became the world's second largest economy, trailing only the United States. By 2012, China's gross domestic product (GDP) was 146 times larger than in 1979. The private sector became dominant economically (Lardy 2014), the relative economic contribution of agriculture decreased dramatically, and rapid industrialization and urbanization occurred. The government went through several waves of market-oriented reforms, resulting in privatizations and officials' going into business for themselves (Guo 2013; Saich 2016).

However, China's economic success has also produced negative social side effects (Hsing and Lee 2010), for example, labor disruption, corruption, income inequality, and environmental pollution all increased (Economy 2004; O'Brien and Li 2006; Mertha 2008; Spires, Tao and Chan 2014). Recently, the Chinese environmental issues received significant attention. Numerous international and domestic environmental reports have focused on China's severe problems of environmental contamination (World Bank 2007; Gallagher 2013; Asian Development Bank 2015; Albert and Xu 2016). Rohde and Muller estimate that air pollution contributes to 1.6 million deaths in China each year, roughly 17% of the annual total (Rohde and Muller 2015). A report from the Ministry of

Environmental Protection of the People's Republic of China posits that 42.7% of China's water resources are severely polluted and over 75% of China's lakes and reservoirs contain water unfit for human consumption (Ministry of Environmental Protection 2010). Moreover, serious pollution has caused widespread social discontent, which threatens government stability (Nankivell 2006; Mertha 2008). Thus, it has become important in recent years to identify the reasons for environmental degradation and offer viable solutions.

Researchers have conducted several studies in response to the growing problem of environmental pollution in China. These studies have provided insights into how the market reforms contribute to the environmental degradation and have yielded valuable information by utilizing different models to analyze specific factors that may alleviate pollution in the Chinese social context. Researchers have concluded that recent efforts by international institutions¹, the state, environmental non-governmental organizations (ENGOS), or corporations have contributed to the development of environmental regulations, mobilization of pollution monitoring, and prevailing private regulations (Christmann and Taylor 2001; Lee 2005; Shi and Zhang 2006; Zhu, Sarkis and Lai 2007; Ho and Edmonds 2008; Wu 2013). However, the extant literature does not explain why

¹ International institutions here mean international organizations that are made up primarily of sovereign states and set international agendas. They include the World Bank, the United Nations, the World Trade Organizations, the Asian Development Bank, etc.

the above listed actors' efforts of reducing pollution cannot prevent environmental deterioration produced by the rapid economic growth.

The above question remains unsolved because current research does not adequately focus on the role of corporations as primary polluters or actors who define environmental policies. Rather, researchers assume that the state, ENGOs, and corporations are both willing to reduce pollution and able to identify means to do so. The extant research focuses on these actors' efforts to promote environmental regulations, but does not sufficiently address whether these policies and advocacy significantly influence pollution rates.

Therefore, this dissertation explores and evaluates the extent to which organizational and political arrangements affect environmental pollution. This line of research suggests that organizations play the primary role in environmental degradation and offers a different perspective on the relationship between the state agendas, structure, and environmental policies (Perrow 1997; Prechel and Touche 2014). Environmental pollution results from changes in policies defined by diverse groups, which include corporations. This line of research in the US shows that corporations exercise their power with self-interested, not only encouraging deregulation by environmental authorities, but also allying with other actors when their interest coincide. Research in this tradition centers on the unequal power possessed by polluters and their influence on decision-making processes (Held et al. 1999; Prechel 2012; Scherer, Palazzo and Baumann 2015). Such research emphasizes how organizational and political-legal arrangements affect environmental pollution (Prechel 2012; Prechel and Touche 2014).

The Chinese Incineration Industry

Building on this perspective, my study examines the policy formation process in the Chinese incineration industry. The Chinese incineration industry is a coalition comprising foreign and domestic private firms and state-owned enterprises (SOEs) engaged in the design, construction, and operation of solid waste incinerators. Industry associations represent common interests and operate to unify this coalition. After the country's market reform in 1979, as economic growth and urbanization significantly increased the amount of urban solid waste, there was a demand for appropriate solid waste treatment in large populous areas. Incineration technology which disposes of urban solid waste by burning was a potential solution in China based on several advantages. Incineration has several positive characteristics including reducing garbage volume, generating electricity, and avoiding the problems of odor and groundwater contamination associated with landfills and composting.

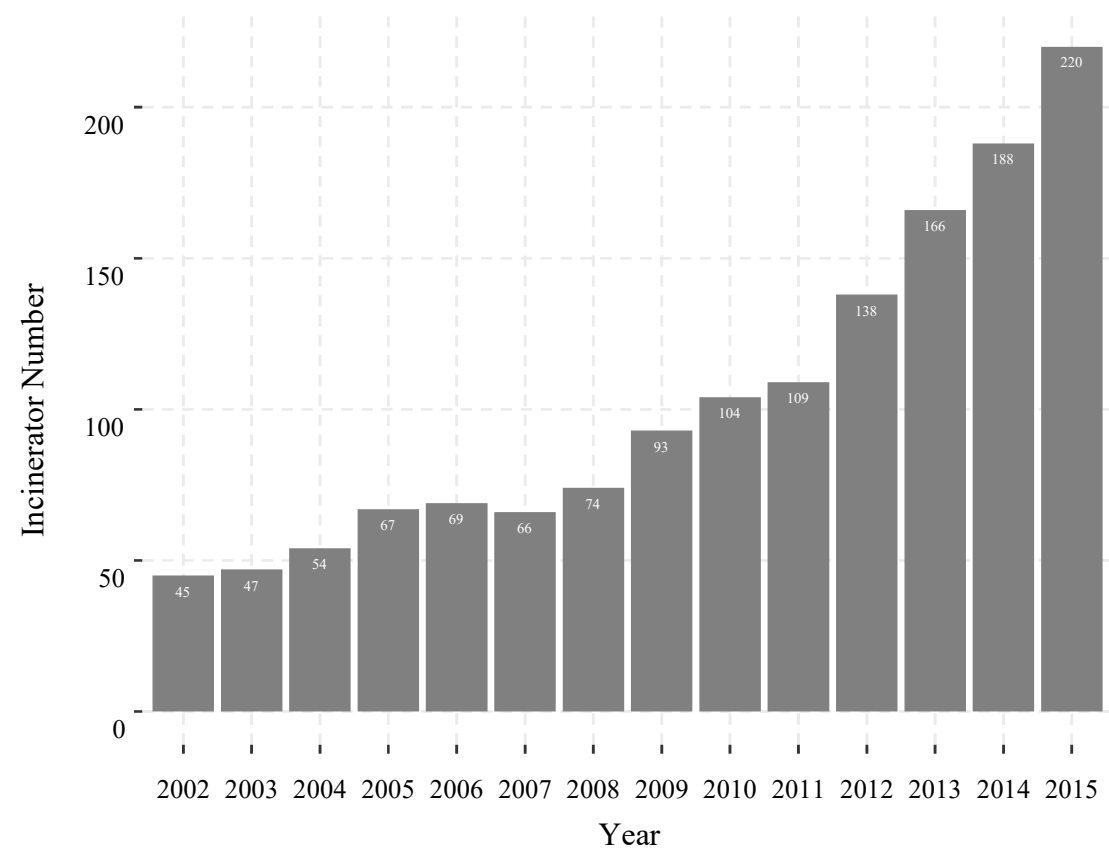
However, incineration also has negative characteristics. First, the burning of solid waste produces toxic pollution, specifically carcinogens such as heavy metals and dioxin. In the 1980s, environmental agencies and ENGOs in developed countries began to protest incinerator construction. Incineration thus was unpopular in developed countries (Pellow 2007). Second, significant investment and technological requirements make incinerator construction unaffordable for many developing countries.

When incineration markets shrank in developed countries after the 1980s, incineration multinational corporations (MNCs) sought new markets. Developing countries which required investments and technology became incineration MNCs targets.

After the 1990s, international institutions and incineration MNCs covered up pollution associated with incineration and primarily used build-operate-transfer (BOT) arrangements to promote incinerator construction within developing countries. According to the World Bank, BOT arrangements include public sector franchises to a private corporation with the right to build a facility and operate it for a fixed period of time (usually 20–30 years) (World Bank n. d.). BOT policies were crucial for the emergence of the incineration industry because they allowed international and private funding to invest in incineration in developing countries

With the help of incineration MNCs and international institutions, from 1989 to 2015, the number of incinerators in Chinese cities increased from one to 220. The volume of waste treated by incineration increased to 61.8 million tons/year (See Figure 1.1 and 1.2). Moreover, national proposals exist to build another 200 incinerators over the next decade. At the local level, anti-incinerator protests suspended two Beijing incineration projects in 2007 and 2009, respectively. However, the Beijing government has restarted these projects in 2012 and has plans for building an additional 10 incinerators in the city. China is now the largest incineration market in the world, but the rapid expansion of the incineration industry is creating environmental hazards in the country.

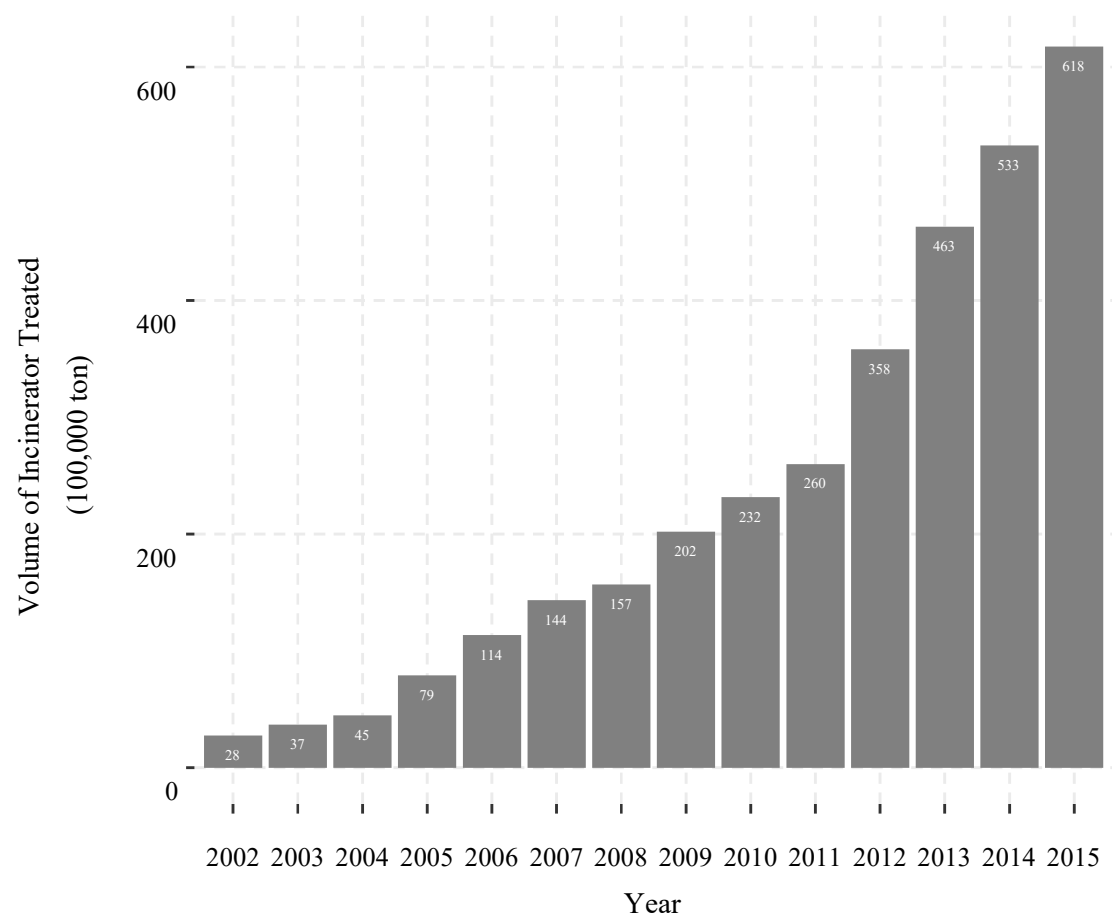
Figure 1.1: The Number of Incinerators in China²



Source: China Urban Construction Statistical Yearbook

² The publication of China Urban Construction Statistical Yearbook was started in 2002. The figures cannot show the number of incinerators from 1989–2001.

Figure 1.2: The Volume of Incinerator Treated



Source: China Urban Construction Statistical Yearbook

Actors Related to the Development of the Chinese Incineration Industry

Apart from the increasing amount of solid waste, the development of the Chinese incineration industry was the result from diverse social actors' efforts to change environmental policies. The policies included BOT of public utilities, renewable energy promotion, and increasing both the numbers of incinerators and incinerator subsidies (i.e.,

feed-in tariff)³. The various affected parties organized political coalitions and allied with different state departments in support or opposition of incineration. Since the market reform was fundamental to all policies, the pro-reform group appeared in all relevant coalitions. The composition of the pro-reform group changed over time, but the core members remained fairly constant. The pro-reform group consisted primarily of reformist intellectuals and officials, as well as the international institutions that embraced the neo-liberal agenda of promoting market reforms. When the market reforms focused on BOT policies for incineration construction from 1989–2007, the pro-reform group allied with private corporations to form the pro-BOT group. After 1997, the pro-reform group allied with a hydropower company, the Ertan Hydropower Station, to protest against the State Power Corporation's monopoly on the electricity market. The success of the pro-reform group produced a consequence that the hydropower industry aligned with other renewable energy industries to promote the renewable energy law.

In contrast, leftist officials, intellectuals, and socialists mobilized politically to form the anti-reform group. During 1989–2007, BOT policies became a core reform strategy to privatize public utilities. The anti-reform group aligned themselves with SOEs and administrative departments operating public utilities, which formed the anti-BOT

³ Feed-in tariff policies guarantee incineration electricity a price that is above market value to encourage incineration investments (Hsu 2012a; Lo 2014). Because feed-in tariff price in China is paid by the government, it is treated as a kind of subsidies (Ouyang and Lin 2014).

group. Furthermore, to resist the electricity market reform, the State Power Corporation allied with the anti-reform group after 1997.

After 2007, after the BOT policies and the renewable energy law were ensured, actors focused on specific policies of promoting incineration: increasing numbers of incinerators and incinerator subsidies. When the influence of the neo-liberal agenda declined, local government leaders (especially in cities with serious garbage problems) and private incineration corporations ceased promoting the marketization strategy and allied with SOEs to form the pro-incineration group. Meanwhile, academics concerned with environmental issues, ENGOs and residents concerned by incinerator pollution formed anti-incineration groups. In the following chapters, I represent the relationships among the actors and political coalitions.

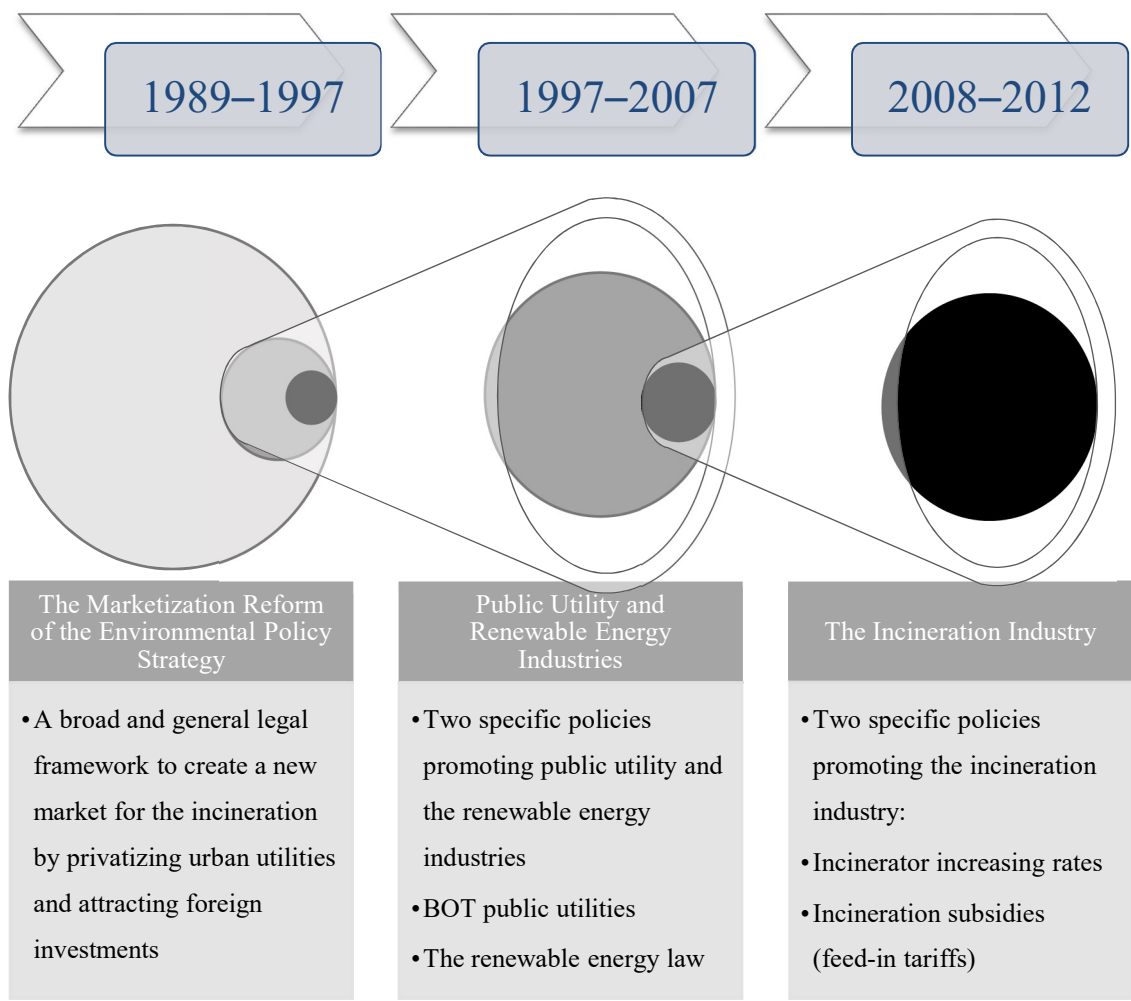
Research Objectives

This study conducts empirical analysis in two interrelated parts. First, it explores changes in the environmental policy of China's central government. Second, it examines policy changes and practices implemented by the city of Beijing. This research focuses on Beijing because: (1) it is China's capital; (2) it is China's political center, home to the core operations of central and local government; and (3) it has China's highest concentrations of foreign investors, incineration corporations, and environmental groups. By analyzing Beijing at a local level, this study will examine the comprehensive interactions among the diverse actors involved in policy formation processes. The objectives of this study are to examine the extent to which incineration corporations (1) exercise power related to

environmental policy changes at the central and local administrative levels, (2) restrict influences of anti-incinerator groups, and (3) affect the increase of pollution in Beijing.

I examined the environmental policies regarding incineration from 1989–2012. During this period, the Chinese society experienced a dramatic change driven by market reforms. The environmental policies related to the Chinese incineration development aligned with the market reform practices: From broader strategies to more specific policies. After 1989, the marketization reform of the environmental policy strategy established a legal framework for the incineration development. This broad and general environmental strategy created a new market for the incineration by privatizing urban utilities and attracting foreign investments. By 1997, since the broad strategy was ensured, pro-incineration policies that focused on specific industries were promoted. After 1997, BOT public utilities and the renewable energy law were two specific policies for the incineration development. Since 2008, identifying incinerator increasing rates and subsidies (feed-in tariffs) were two specific policies to determine the rapid growth. Therefore, to evaluate key factors to promote these policies, I divided this research into three periods: (1) after the Tiananmen Square protests (1989–1997), (2) after the Asian financial crisis (1997–2007), and (3) after the global financial crisis (2008–2012) (See Figure 1.3).

Figure 1.3: The Environmental Policies Regarding Incineration from 1989–2012



To understand the policy formation process, I examine the environmental laws, administrative rules, and five-year economic plans. All environmental laws in China are passed by the National People's Congress, which comprises representatives of the people and superficially resembles the parliament of a democratic country. However, the National People's Congress continues to be controlled by government departments and the Chinese Communist Party. Administrative rules include measures, opinions, and notices issued by administrative authorities. In China, the chief administrative authority is the State Council, which manages departments at the cabinet-level as well as provincial governments. Because China remains an authoritarian state, the administration has discretionary power to issue rules that transcend existing laws. As administrative rules have significant power, the formation processes of these rules become contested terrains among diverse departments and social actors (Ran 2015). The origins of the five-year plans lie in a planned economy, but they remain the primary national and social development strategy after the market reform. The plans are reviewed by the State Council and approved by the Chinese Communist Party.

LITERATURE REVIEW

Three major models help explain the development of environmental policies in China, namely the citizenship awareness model, environmental authoritarianism, and the industrial environmental management model. These models make different assumptions about state-society relationships, social actors' roles in decision-making processes, and the influences of the polluters on environmental policies.

Citizenship Awareness Model

The decline in the control of the Chinese authoritarian regime after the market reform has encouraged political sociologists to develop a new paradigm to explain policy-making processes within China (Yang 2004; Ho and Edmonds 2008; Salmenkari 2008; Xie 2009; Spires 2011). Drawing on the pluralism and democratization theories, the citizenship awareness model describes how weak authoritarian governance allows diverse social actors to influence policy (White 1996; Yang 2004; Tang and Zhan 2008).

The model assumes that: (1) as an authoritarian regime weakens, the state becomes increasingly vulnerable as an instrument of interest groups within democratization; and (2) social actors have opportunities to pursue their interests (Kennedy 2005; Tang and Zhan 2008; Liu and Zhang 2010). While some actors are more likely to determine specific policies, other actors are able to utilize opportunities and structures for their own interests (Lieberthal and Oksenberg 1988; Ho and Edmonds 2008).

Using China as an example, the citizenship awareness model demonstrates that changes in the Chinese political and economic system allowed ENGOs to affect environmental policies. Scholars suggest that ENGOs, seen as relatively weak in terms of resources and power, can affect environmental policies (Ho and Edmonds 2008; Hsu 2012b). Drawing on social movement theories, the citizenship awareness model also posits that Chinese ENGOs pursue their goals by using various political opportunities (O'Brien and Li 2006), exploiting resources (Becker 2012; Hildebrandt 2012), and/or organizing via social networks (Shi and Cai 2006).

In response to the long term criticism that ignores power actors, one important evolution of the citizenship awareness model is to inject the state and power groups into the model. Even with this modification, the citizenship awareness model remains unable to transcend the pluralist weakness to provide a distinct account of the operations of state and different power groups. Hence, several criticisms exist of the citizenship awareness model.

First, the citizenship awareness model described the state as having different roles, in authoritarian or democratic countries whereas the state remains an instrument of diverse social actors. In recent years, state-centered theories have developed complex and comprehensive explanations for the state roles in decision-making processes. State-centered theorists have argued that the state can overcome conflicts among social actors to offer a general agenda (Block 1977b; Orloff and Skocpol 1984; Block 2007). Without taking the state seriously, the citizenship awareness model cannot answer many questions, such as why state managers can offer a general agenda, especially when social actors have intense conflicts of interest, which prevent their provision of common suggestions.

Second, the citizenship awareness model overlooks differences among social actors in access to power and resources. ENGOS' activities are not in a vacuum. Other power groups may compete against ENGOS' influences. The power elite theory has demonstrated that power groups which occupy top positions in the hierarchies of organizations, institutions, and inside the government (Useem 1982; Domhoff 1990) can dominate policies (Useem 1982; Akard 1992). Without an appropriate framework to

compare different power of social groups, the citizenship awareness model tends to make an easy conclusion that ENGOs have great influences on policies.

In short, the citizenship awareness model acknowledges that ENGOs can influence environmental policies, especially when the control of authoritarian regimes fades. However, the citizenship awareness model tends to overemphasize the political influence of ENGOs. The model remains unable to transcend the pluralist weakness to provide a distinct account of the operations of the state and different power groups.

Environmental Authoritarianism

In contrast to the instrumentalism of the citizenship awareness model, environmental authoritarianism (Shearman and Smith 2007; Beeson 2010; Cao and Ward 2011; Gilley 2012; Eaton and Kostka 2014; Moore 2014) draws on state-centered theories to suggest that scholars should “bring the state back in” to better comprehend decision-making processes (Orloff and Skocpol 1984; Evans, Rueschemeyer and Skocpol 1985). State-centered theories suggests that social actors possess conflicting interests and so cannot generate common agendas. The state is a crucial mediator of social actors conflicts and promotes a general agenda of increasing economic growth (Block 1977b; Block 2007). Environmental authoritarians argue that the state determines the transformation of environmental policies, especially in countries that have experienced long-term authoritarian rules and have solid established bureaucratic systems (Shearman and Smith 2007; Beeson 2010; Cao and Ward 2011; Gilley 2012; Eaton and Kostka 2014; Moore 2014).

Several studies have used environmental authoritarianism to examine environmental policy formation processes in China. For example, Shearman and Smith point out that compared with corporations and ENGOs, the bureaucratic system in China is relatively efficient and effective. Consequently, the Chinese government enjoys relative omnipotence in gathering and weighing information on international pressures, the demands of social actors, and challenges faced in national development (Shearman and Smith 2007). Scholars offer empirical evidence that the Chinese government has dominated environmental policies in response to the significant environmental risks (Eaton and Kostka 2014; Moore 2014). Cao and Ward show that the Chinese government has responded to efforts to strengthen citizen participation in environmental decision-making processes by establishing new environmental committees and authorities (Cao and Ward 2011). Rather than making policy process more democratic, such expansion of the bureaucracy offers more channels for the government to gather information and de-escalate social discontent (Cao and Ward 2011).

The power elite theory criticizes that the state-centered theories overemphasize the state power and argues that power groups can directly influence the policy-making process. For example, MNCs and international institutions possess resources to establish ties with state departments and domestic elites to promote policies (Babb 2001; Robinson 2005).

In brief, the environmental authoritarianism model provides a theoretical framework to analyze the state's crucial role in decision-making processes. This model suggests that conflict among social actors negatively impacts their capacity to make integrated decisions. The state is autonomous and plays a key role in mitigating conflicts

among social actors. Therefore, rather than being an instrument of social actors, the state can unilaterally dominate political and economic agendas. Studies on environmental authoritarianism then demonstrate that, after China's market reforms, the capabilities of the Chinese government increased rather than decreased. With sufficient government resolve, appropriate environmental enhancements became realizable, benefiting the public. However, this model overlooks the fact that power groups possess resources that they can use to resist state policies. Moreover, to garner information and seek support, the state must establish diverse ties with society. These ties offer platforms for social actors, especially resource-rich corporations, to affect environmental policy.

Industrial Environmental Management Model

More recently, by incorporating the neo-liberalist claim that self-regulating markets create incentives for corporations to distribute common goods efficiently, many business leaders, scholars, and politicians have maintained that private regulations and voluntary environmental controls offer the best form of environmental protection. The argument is that such an approach is effective, easily applied, and can simultaneously realize both economic growth and rational ecological protection (Tietenberg 1998; Khanna 2002; Lyon and Maxwell 2004; Jordan, Wurzel and Zito 2005; Jermier et al. 2006). Advocacy for this approach, called industrial environmental management⁴, stresses that

⁴ Scholars use different terms to describe this advocacy, such as industrial environmental management (Zhu, Sarkis and Geng 2005), new corporate environmentalism (Jermier et al. 2006), and non-mandatory approach (Khanna 2002).

public regulations are not an effective instrument to prevent pollution, but rather harm business initiatives and damage long-term economic development and environmental protection (Jermier et al. 2006).

The industrial environmental management model emphasizes that neo-liberal reforms are necessary to resolve environmental degradation in developing countries. Scholars employing this model track the evolution of private regulations in China. They suggest that because China's neo-liberal market reform helped eliminate government regulations and encourage foreign investment. The reform benefited the environment by importing advanced-technologically efficient equipment as well as international environmental private standards. For example, the country's environmental performance has improved as foreign corporations have introduced international environmental standards (Child, Lu and Tsai 2007; Lan, Kakinaka and Huang 2011). Given widespread acceptance of ISO 14001⁵ and green supply chain management (GSCM) from developed countries, these private regulations have become a mechanism that pressures suppliers in China to improve their environmental performance (Fryxell and Lo 2002; Zhu, Sarkis and Lai 2007; Zhu et al. 2008).

Therefore, the industrial environmental management model makes different assumptions to the citizenship awareness model and environmental authoritarianism. First, the former model suggests a different state-society relationship, which advocates the

⁵ ISO 14001 is a guide to set out the international criteria for an environmental management system in productive processes.

elimination of state intervention in the market. Market self-regulation can stimulate efficient exploitation of societal resources, technological innovation, economic growth, and thus achieve ecological sustainability (Jermier et al. 2006). Similarly, several scholars conceptualize the “environmental state,” which suggests that the role of the state with regard to environment issues should realize a partnership with the private sector to encourage enterprises to innovate pollution prevention (Mol and Spaargaren 2002; Mol 2007). Second, this model implies that corporations are not strongly motivated to influence decision-making processes, except in relation to policies that eliminate regulations and directly enhance the market economy. When corporations can realize their desires to protect the environment in self-regulating markets, they are unwilling to expend resources in pursuit of policy changes.

The industrial environmental management model’s endorsement of the self-regulating market has attracted criticism. First, this model ignores how corporations pursue changes in political-legal arrangements; moreover, as Polanyi demonstrates, a self-regulating market cannot exist without the support of political systems. The emergence, maintenance, and sustainability of markets involve diverse policies and political institutions in the state. Hence, attempts to substitute market rules for public policies, and to separate markets from society have had devastating social effects (Polanyi 2001[1944]). Finally, policies and political institutions offer social actors unequal access to resources and the political system. This encourages corporations to pursue or maintain control over resources and opportunities.

In summary, the industrial environmental management model explains how corporations will be motivated to protect the environment when market reforms eliminate public regulations. However, this model ignores the fact that a self-regulating market manifests private corporations to pursue self-interest. The industrial environmental management model cannot explain how to identify whether corporations' efforts to deregulate environmental policies are driven by self-interest or a desire to reduce pollution (Prechel 2012).

AN ALTERNATIVE FORMULA:

ORGANIZATIONAL-POLITICAL ECONOMY PERSPECTIVE

Organizational-political economy perspective maintains that the prevailing literature does give adequate attention to the exercise of organization power in the policy formation processes. My research draws on three dimensions of organizational political economy. First, society-state relationships do not remain constant and cannot be separated from one another (Prechel 2000; Prechel and Morris 2010; Prechel 2012). Second, organizational structures inside the state affect the policy formation process. Third, historical conditions affect the policy formation process, which become of focus of political coalitions.

The organizational-political economy perspective draws on central themes within the modern political economy, including Polanyi's view that markets are embedded in politically, socially, and culturally arrangements (Polanyi 2001[1944]). Markets are not self-regulating and cannot be separated from political-legal arrangements, which are

affected by organizations outside the state. These arrangements are the outcome of compromises among political elites and capitalists.

In short, there are four interrelated dimensions of social structures relevant to my analysis: historical conditions, state structures, political coalitions, and neo-liberal ideology. In the following sections, I will elaborate on these dimensions and develop propositions from them.

Historical Conditions

The organizational-political economy perspective incorporates historical contingency theory, which shows that state autonomy and social actors unity change over time and this change depends upon historical conditions (Prechel 1990). During crises that impact all sectors, almost all social actors are damaged. To find a new state general agenda to stabilize the economy, either social actors unite or state managers successfully mediate conflicts among these factions.

However, neither the state nor social actors can guarantee the persistent implementation of the new state agenda. Conflicts emerge when (1) the state agenda cannot resolve or produces general economic problems, and (2) the state agenda restores economic stability. In the former scenario, diverse social actors ally with state managers to seek an alternative general agenda. In the latter scenario, several social actors identify that the state agenda cannot benefit all economic sectors equally. Because of the restoration of economic stability, these actors no longer face a general threat and they will ally with other actors to pursue their similar agendas (Prechel 1990; Prechel 2000).

This research proposes that in response to changes in economic performance in China, (1) the state provided new developmental agendas, (2) foreign and domestic corporations mobilized politically and aligned with these state agendas, and (3) during periods of political and economic stability, several social actors worked to redefine these state agendas. Accordingly, Chinese environmental policies were fashioned by the state, as well as foreign and domestic incineration corporations.

Proposition 1: Changes in political and economic stability are historical conditions that the state managers and social actors support state general agendas in crises or pursue their interests in economic growth.

State Structures

The organizational-political economy perspective perceives the state as an organization with broad and diverse authorities. The structure of this complex organization is not isolated from society; and its agendas are not only determined by state managers, but also by the actions of corporations, civil organizations, and political elites (Prechel 2000; Woods and Morris 2006; Prechel 2012). Moreover, the state organizational structures are not static, and actors attempt to reform state structures to access decision-making processes.

To facilitate market-based economic growth, China represents a unique set of historical contingencies. This study suggests that the reform of the Chinese state creates significant opportunities for political coalitions to dominate policy formation processes. This argument is consistent with research by political sociologists that suggests a high correlation between the spread of markets and bureaucratic reforms. The operational

function of markets creates demands for a rational and efficient bureaucratic state (Weber 1968). The Chinese government employed numerous waves of administrative reforms to promote the market economy. The core of these reforms was to withdraw government intervention from economic issues and shift the responsibility of administration from intervention to macro control. Hence, the reforms attempt to decrease the number of state officials and make macro control more efficient and rational. However, as administrative organizations shrink, the administration become less able to collect information and make rational decisions in the ever-expanding market economy. To promote rational policies and maintain value neutrality in decision-making processes, the authorities change their structures to better access market information. This is accomplished by involving experts in decision-making processes and outsourcing to policy research institutions the task of administering various surveys (Zou 2004; Guo 2007; He 2008).

However, Weber argues that bureaucratic structures do not exclude policy influence by special interest groups, despite increasing the access of power groups to policy-making channels. Weber also argues that establishing consulting teams is a type of collegiality (Weber 1968). The consulting teams in bureaucratic structures cannot completely mitigate the influences of social groups as well as promote democracy. As Weber explains: “Collegiality is in no sense specifically ‘democratic.’ Where privileged groups have had to protect their privileges against those who were excluded from them they have always attempted to prevent the rise of monocratic power” (Weber 1968). In other words, Weber posits that the recruitment of experts into bureaucratic structures or

the outsourcing of surveys to policy research institutions do not result in professional and neutral advices, but merely allow powerful outsiders to influence decision-making.

Hence, I posit that the ability to access the state organizational structures determines the influences of social actors on policy formation processes. When the Chinese government demands investment, technology, and market resources from international institutions and corporations, these actors became able to utilize the state structures to promote pro-incineration environmental policies. To protest incinerator projects, ENGOs also pursue close connections with the state structures. Given its enormous resources, I suggest that the Chinese incineration industry can easily utilize the state structures to pursue its interests.

Proposition 2: Social actors with substantial resources are able to utilize the state structure as channels to assess decision-making processes and promote pro-incineration environmental policies.

Political Coalitions

According to the organizational-political economy perspective, political coalitions are a key consideration in evaluating the policy influence of social actors. This issue is important because it relates to how political coalitions transcend internal conflicts to engage in common actions with other social actors (Prechel 1990; Akard 1992). The organizational-political economy perspective suggests that organizations represent political coalitions that mitigate conflicts and become the means to pursue common interests.

There are three general types of organizational mechanisms that mitigate the conflicts to influence policies. First, organizations with large resources represent a significant ability to collaborate with social actors both inside and outside the state (Therborn 1978; Offe and Wiesensthal 1980). MNCs and international institutions generally have significant resources to ally with domestic elites via investments, funding, financial compensation, and positions in exchange for those elites applying their influence to local policies (Babb 2001; Robinson 2005; Ranganathan and Prechel 2007). Second, organizations with diverse ties with other actors are more likely to share information and conduct negotiations that is relatively free from conflicts to establish a political coalition to promote policies. The ties include (1) individual levels that organizations' leaders share similar backgrounds and experiences with other social actors, and (2) organizational levels that organizational have interlocking corporate directorates, common shareholders, and financial ties (Useem 1982; Useem 1984; Mizruchi 1987). Third, cross-firm organizations, such as policy-planning organizations or industry associations, are responsible for pursuing general opinions. They collaborate with other actors to establish several mechanisms, such as conferences and forums, to produce common policy suggestions (Dreiling 2000). The political influences of these three types of organizations vary across different historical conditions.

Based on the above arguments, I propose that the ability to establish an integrated and broad political coalition affects the capacity of social actors to influence incineration policies. The Chinese incineration industry established a coalition with foreign firms, SOEs, and private corporations. Moreover, China's market reform has been accompanied

by a profound social transformation that has allowed corporations and industry associations to build ties with other actors. This social transformation has involved changes in state structures and educational reforms, as well as privatization, and the opening of markets to foreign investors (Lieberthal and Oksenberg 1988; Huang 2002; Walder 2003; Lieberthal 2004; Li 2006; Fayong 2008; Jing 2008; Li 2008). I suggest that incineration corporations have established industry associations that could ally with other social actors to influence policy.

Simultaneously, ENGOs in China formed a coalition with similar groups overseas, grassroots activists, professors, urban residents, journalists, and state officials as the anti-incinerator group. This group had potential to engineer policy changes, such as by allowing public participation in project planning and suspending incinerator projects. However, because the Chinese government treated such environmental coalitions as a potential threat to authoritarian control, they are forced to remain informal coalitions, which tend to enjoy limited success against strong industrial-state coalitions.

Proposition 3: Pro-business political coalitions, which are able to mitigate inter or intra conflicts and have close ties with state officials, can exercise far more influence on pro-incineration environmental policy.

Neo-liberal Ideology

As a political-economic ideology, neo-liberalism is a set of ideas to establish guidelines for political systems and economic behavior. When neo-liberalism superseded Keynesianism as a political-economic ideology in the 1970s, it did so as an alternative political economic strategy with which corporations, the state, and other social actors

aligned (Prechel 2000; Prechel and Morris 2010; Prechel 2012). Neo-liberalism is critical of Keynesianism, which prescribes that the state plays a crucial economic role.⁶ To foster individual freedoms and private property rights, advocates of neo-liberalism prescribe deregulation, privatization, and the abolition of social welfare. Since the 1970s, from the organizational-political economy perspective, neo-liberalism has served to legitimize the behaviors of the state and social actors, which follows the principles of neo-liberal ideologies (Prechel 2000; Prechel and Morris 2010; Prechel 2012). Therefore, the organizational-political economy perspective argues that neo-liberalism offers an incentive and legitimacy for corporations and their allies to redefine the political-legal arrangements in which they are embedded. Moreover, after the financial crisis of 2008, neo-liberal ideology attracted heavy criticism. The organizational-political economy perspective suggests that when neo-liberal ideology can no longer offer an agenda for promoting economic growth, the state, corporations, and other actors mobilize politically to define new political-legal arrangements.

After the market reform, neo-liberalism has influenced all sectors in China, including social movements (Cox 1983; Fisher 1997; Frank, Hironaka and Schofer 2000).

⁶ In the period of Keynesianism, there was similar influences of the political-economic ideology on the policy formation processes. Bunker's study shows that the modernization strategy, as an important ideology after the 1950s, encouraged the Brazilian government to accept economic agendas pursued by international institutions and foreign and domestic capitalists. These agendas resulted in heavy debts borrowing from international institutions and produced outcomes that exploited natural resources and damaged the environment in the Amazon (Bunker 1985).

Research has demonstrated that neo-liberalism shapes the strategies of social movement groups. However, different national contexts affect the strategies adopted by social movement groups and the outcomes achieved (Liu 2006; Hadler and Haller 2011). In democratic countries such groups face challenges from the state, corporations, and pro-neo-liberal social groups funded by corporations and other elites (Ford 2003; Wallance 2004; Alvarez 2009; Wright 2012; Carroll 2014). In contrast, in authoritarian countries, such as China, the neo-liberal market reform reduces state controls, supports private sector, and introduces foreign aid. This opening of political space allows social movement groups to gain resources and employ collective actions to pursue their interests (O'Brien and Li 2006; Zhao 2010; Matsuzawa 2011).

Consequently, this research suggests that historical variations of prevailing political-economic ideologies affect the behavior of social actors. I posit that the prevalence of the neo-liberal ideology legitimized the political mobilization of the pro-reform and pro-incineration groups. They could change the central and local government policies, including the privatization of public utilities and subsidies for incineration facilities. Neo-liberalism also contributed political space to anti-incineration groups. I also posit that the global financial crisis of 2008 caused Chinese political elites and corporations to doubt the neo-liberal ideology. These doubts created divisions and led to the emergence of several factions, each promoting a different new political and economic agenda. With the anti-incinerator group lacking a single coherent agenda, it found it difficult to change environmental policies that tended to favor incineration.

Thus, I propose the following arguments. First, alignment with the neo-liberal agenda legitimizes reformists, incineration corporations, and other pro-incineration actors to define pro-incineration environmental policies. Second, the anti-incinerator group in China use political spaces created by neo-liberalism to enforce environmental regulations. Third, when the economic recession of 2008 made neo-liberalism vulnerable to challenge, the adoption of a pro-SOE strategy by political elites and SOEs increased in legitimacy. Fourth, the diminished legitimacy of neo-liberalism made it difficult for private corporations to oppose the pro-SOE strategy, and encouraged them to align their interests with those of SOEs in defining a new developmental agenda. Finally, the anti-incinerator group which could not align with the new agenda that emerged after 2008 or offer an alternative were unable to change environmental policies.

Proposition 4: The pro-business groups are able to evaluate the historical variations in neo-liberalism to define pro-incineration policies that align with the neo-liberal or alternative agendas.

RESEARCH DESIGN

This study uses a historical case study method to analyze the relationships between social actors' actions and social structures during historical transitions. Weber's multi-causality methodology argues that social changes not only result from economic factors, but also include political, organizational, ideological, legal, and cultural forces (Kalberg 1994; Kalberg 2012). Weber further argues that causal forces that influence social actions are historically contingent. Therefore, while identifying processes involved in social

change, researchers should examine multiple causal forces and historical conditions that affect the associated degree of causality (Kalberg 2012).

The above four theoretical-driven propositions will guide the examination of three distinct policy periods: (1) after the Tiananmen Square protests (1989–1997), (2) after the Asian financial crisis (1997–2007), and (3) after the global financial crisis (2008–2012). This study identifies specific patterns that characterize the actions of the state, corporations and other social actors.

The Case Study

Historical case study methods contribute to sociological studies by facilitating the examination of contextual effects within complex social processes (Ragin and Zaret 1983; Yin 2017). However, case study research, especially involving only single case studies, naturally raises questions about generalizability. Although such questions are important, the contribution of case study research rest on whether a case is typical or atypical, as well as why case's similarities and differences with other research's samples are theoretically important (Prechel 1994; Yin 2017). The Chinese incineration industry is unique with two crucial characteristics. First, the Chinese incineration industry simultaneously belongs to both the public utilities sector and the environmental protection industry. The state maintained controls over the public utilities even while allowing privatization because of its importance to the citizen lives. There are SOEs and private corporations in this sector. As a component of the broader environmental protection industry, the incineration corporations claimed that they established strict private regulations, followed

environmental norms, and provided an example for other sectors. In addition, incinerators in China have confronted anti-incinerator groups' resistance.

Second, the Chinese incineration market has grown faster than any other such market in the world. A thorough examination of the Chinese incineration industry can provide insights in how the competing goals of corporate profits, solid waste problem resolution, and increased pollution have been solved via competing groups' policies.

This historical case study is valuable because it provide insights into the policy formation process. This study employs both the historical document analysis and interview methods.

Historical Document Analysis Methods

The historical document analysis method fits with the setting in China. First, it is difficult to locate accurate and consistent quantitative data while most Chinese incineration corporations are unlisted. Second, this research attempts to reflect the methods through which the state and social actors reach policy decisions during three study periods of time. Because no available survey covers every period, it is difficult to conduct survey research to identify the previous attitudes, motivations, and beliefs of interviewees (Klandermans and Smith 2002). Third, this study attempts to examine how social structures offer opportunities and incentives for the state and social actors to influence policies, yet numerous mechanisms link outcomes with the behavior of social actors. Therefore, document analysis is well suited to the historical case study method for exploring insights relating to the causal processes and mechanisms that link factors and outcomes in specific cases (Ragin 1987; Lange 2013).

Interview Methods

To facilitate the data reliability, the historical document analysis method is supplemented with interviews. First, the analysis of documents provides data on the broader historical context, changes in environmental policies during specific periods, and the relationships between social actors and the state. Interviews provide information on interviewees' experiences and interpretations of policy formation processes to verify document analysis.

Second, interviews verify the contexts of available documents and expand the body of reliable documents. Moreover, some documents, such as formal statements produced by the state or social actors, may contain constructed narratives that do not represent the genuine behavior of organizations and ignore how other members interpret historical events (Blee and Taylor 2002). Comparison of documents to the narratives of interviewees can also provide more reliable data by filtering some of the constructed narratives used to influence the public and state actors. In addition, reliable information is offered by formal records, including — but not limited to — meeting minutes, official documents, and annual reports of listed corporations, public notices, and historical reports. In China, some of these documents are inaccessible or only rarely accessed by the government. The interview process offers access to formal records collected by interviewees directly engaged in decision-making processes (Weimer and Vining 2011).

Third, interview methods allow the use of snowball sampling to access more potential interviewees. Snowball sampling contributes abundant information from a pool of interviewees and also identifies a network with inter-organizational and inter-personal

linkages because interviewees are encouraged to provide contacts until no additional interviewees are mentioned (Diani 2002). Snowball sampling offers a means to reach key persons responsible for environmental policy (Ostrander 1995; Farquharson 2005).

However, interviews possess few disadvantages that may produce serious bias. This study addresses the weaknesses of interviews by the following ways. First, interviews may include inaccurate information, for example when interviewees deliberately give misleading answers or suffer memory lapses (Mikecz 2012). A well-prepared document analysis can help in correcting the responses of interviewees during both the interview and the coding processes (Patton 1999; Mikecz 2012). For example, key policymakers' media interviews and their biographies represent important materials in identifying interviewee responses.

Second, gathering documents from interviewees may receive selective or inappropriate data (Merry et al. 2010). Researchers can check obtained data through comparison with other documents and interviews. If the researchers evaluate that the interviewees should have other documents, they can arrange follow-up interviews. Next, if this fails to obtain further records, the study should report this situation and acknowledge the limitations of the records.

Third, the snowball technique tends to produce sampling errors. Interviewees may offer contacts from their own networks, who in turn offer similar interpretations of events, resulting in research with one-dimensional interpretation. Thus, a researcher must establish a strategy of maximum variation sampling, which includes a set of criteria defining networks to reach diverse groups of social actors (Diani 2002; Lofland et al.

2006). Driven by theoretical perspectives and research objectives, document analysis can identify potential interviewee groups. By using snowball sampling with interviewees from diverse groups, researchers can access multi-dimensional kinds of information.

In brief, the historical document analysis method presents a causal narrative of a case by gathering data, assessing their reliability, and extracting findings (Lange 2013). This method can also identify the validity of the mechanisms of diverse theories and examine their hypotheses, thus making it a better solution to deficiencies in other methods and a means of detailing the historical transitions (Ragin 1987; Lange 2013). This study employs document analysis and interviews as two complementary methods that together can garner reliable data.

DATA

The empirical data for this study are obtained from an analysis of document and interviews. In the document analysis, this study focused on policies, public statements and formal records. Policies and public statements were collected from webpages, libraries, and databases. They were created by central and local governments, social organizations, and crucial actors. These statements from crucial actors, especially department leaders, were of enormous importance for this study because articles by departmental leaders influenced public opinion, legitimized self-interest, and refuted oppositions. They provided more detail on policy formation processes than other public sources (Stockmann 2010). Articles of departmental leaders were also important sources for many China policy studies. However, while articles by departmental leaders may produce bias, this study examined the integrity and reliability of the data via document analysis and interviews.

Formal records include, but are not limited to, meeting minutes, official documents, and listed corporations' annual reports and public notices. Some records are retrieved through webpages and archival databases, such as planning permits related to construction engineering, the United Nations (UN) and the World Bank's online archives, and corporations' annual reports and public notices. In the Chinese setting, certain seldom accessed documents, such as meeting minutes and official documents, may be more reliable than articles by department leaders and public notices (Diamant 2010). I obtained this data from two sources. First, I collected them from interviewees during the interview processes. Since the collection of documents from interviewees may produce bias, I performed document analysis and conducted further interviews to examine the integrity and reliability of the data. Second, I collected this data from Shenzhen Database Net and Chaoxing Net. In recent years, these two database services have scanned books and documents from libraries throughout China, including libraries of government departments. Relatively unknown, these two useful sources allowed me to collect several important documents that were unique and reliable. In addition, I collected media reports and biographies of key persons, which offered a broader picture of historical contexts and allowed me to verify the interviewees' responses.

The interviews primarily included officials, CEOs and managers of incineration firms, professors, and leaders of ENGOs (see Appendix A: Interview List in detail). The interviews were conducted in Beijing from May to July 2016, and involved 27 interviewees. I used two strategies to ensure a diverse and representative sample of interviewees. First, before the fieldwork, I used document analysis to create lists of crucial

actors in every sector related to my research (Ostrander 1995; Farquharson 2005; Goldman and Swayze 2012). Because of the difficulty in accessing key policymakers in China, I interviewed journalists in China whose networks encompassed enterprises and government officials. These journalists not only had knowledge of the incineration industry, but also could identify figures from my lists who might be easily contactable. Then I successfully recruited a few officials and incineration industry leaders. Second, I asked the above contactable interviewees for referrals to other actors, including both those I had listed and others not listed. In this way, I not only recruited almost all the potential interviewees from my lists, but also overcame the limitation of the recruitment identified from the document analysis. Using these two strategies, I successfully interviewed relevant figures in every sector.

More importantly, in developing the interview list, I considered the past work experiences of interviewees, and during each interview would ask further questions about this. This step is important because China policy scholars suggest that retired officials or those who have taken up new positions are often more willing to share details of their previous work history (O'Brien and Li 2006; Ran 2015). Therefore, my interviews included the experiences of interviewees at both their current and previous positions. Naturally, this approach is limited by interviewees having incomplete memories of previous work experiences. To collect reliable interview materials, I conducted document analysis to correct interviewee responses during both the interview and coding processes (Patton 1999; Mikecz 2012).

Prior to the interview, I provided an information sheet or consent form in English and Chinese for the interviewees. The interviewees were also informed that they could withdraw from the study at any point. All the interviews lasted one to two hours and were audio-recorded. All the interviewees in this dissertation are pseudonyms to provide greater anonymity and human subject protection. Each interview was reviewed for data related to these areas to verify the content of the interviews and for the purpose of arranging follow-up interviews. The quoted interviewees in this research were translated from Chinese into English by the researcher.

CHAPTER DESIGN

As stated above, this research elaborates on the three distinct periods of time during the policy formation processes in the Chinese incineration industry from 1989 to 2012. In Chapter II, I provide the domestic and international historical context before 1989. Then I examine how China transformed its environmental strategy from command-and-control socialist regulation to a market strategy during 1989–1997, so providing the fundamental legal foundation for the emergence of the Chinese incineration industry. I demonstrate that the Tiananmen Square democracy protests of 1989 contributed to a political and economic crisis that the Chinese Communist Party decided to repress the protests. After the elites decided to employ the repression to resolve the political chaos, they found that the repression created other economic problems and became split over an appropriate agenda for further reform. Reformists allied with MNCs and international institutions to promote the legal framework of the UN and the World Bank’s sustainable development strategy,

especially regarding parts of the privatization of urban infrastructure to invest in incineration.

Chapter III presents the Asian financial crisis in 1997 and its impact on the behaviors of the state and social actors. The state's bailout policies won support from social actors and saved China's economy from disaster. However, the bailout also decreased private investment and production, created a power surplus and caused conflict between the state-owned electric power corporation and independent power plants (IPPs), including incinerators. Two new energy agendas were created by an alliance between IPPs and reformist officials: the separation of the state-owned electric power corporation in 2002 and the renewable energy law in 2005, which offered subsidies to incinerators. During the same period, the experiences of practices regarding the privatization of the Beijing urban utilities established a political coalition between Beijing officials and the private sectors. After some officials were promoted into the central government, the coalition played an important role in passing a nationwide legal framework related to urban utilities privatization. This legal framework was crucial for the development of the Chinese incineration industry.

Chapter IV elaborates on the impact of the global financial crisis of 2008. This crisis forced the state to provide an economic bailout policy supported by corporations, including the incineration industry. Although the bailout policy decreased the number of BOT projects, private incineration corporations did not promote privatization policies. Because the crisis created doubts regarding the neo-liberal ideology, it benefited SOEs, which gained most incinerator projects in Beijing. Private incineration corporations

aligned with SOEs to influence incineration policies. Finally, in the same period, the consequences of booming incinerators produced pollution and spurred anti-incinerator protests.

In the concluding chapter (Chapter V), I present the theoretical findings and the limitations of my dissertation.

CHAPTER II

POLICY PERIOD ONE:

MARKETIZATION REFORM OF ENVIRONMENTAL POLICY STRATEGY,
1989–1997

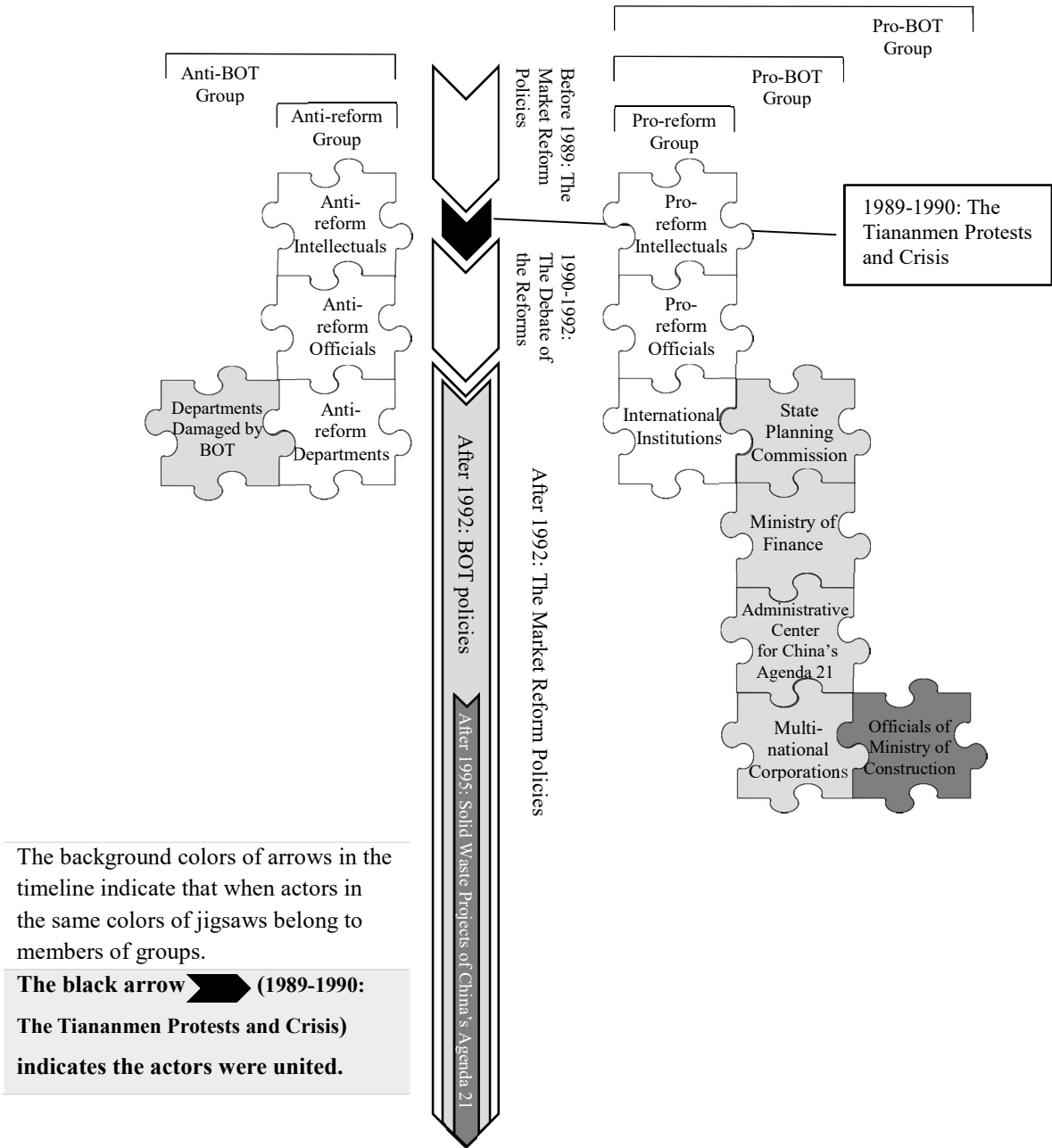
INTRODUCTION

This chapter analyzes the policy formation process how the Chinese government decided to substitute the marketization of environmental policy strategy for command-and-control socialist regulations from 1989–1997. This strategy was a broad and general agenda that was promoted by MNCs and international institutions at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro (1992). The strategy was important because it established the Chinese incineration industry from scratch. It effectively promoted a set of policies to privatize urban utilities, attract foreign investment and create new markets. Specifically, three important policies were passed during this period: (1) the Build-Operate-Transfer (BOT) legal framework, (2) private environmental pilot projects, and (3) import of environmental technology, including incineration, from MNCs (Figure 2.1 shows social actors and political coalitions related to the strategy).

Using the organizational-political economy perspective, this chapter explores how the Chinese pro-reform officials, MNCs, and international institutions established a political coalition of the pro-reform group, utilized the state structures, and aligned with the neo-liberal ideological agenda to promote the marketization of environmental policy

strategy. The sections of this chapter are designed as following. First, I will introduce the domestic historical background and the characteristics of environmental and solid waste policies before 1989. Second, I will explain how MNCs aligned with pro-business UN officials to define a pro-marketization of global environmental policies, namely, Agenda 21, at the UNCED in 1992. Third, this chapter will explore why the Tiananmen Square Protest in 1989 led the Chinese government to accept Agenda 21. Fourth, this chapter will illustrate how the pro-reform group succeeded in promoting a BOT legal framework. Fifth, I will demonstrate how the pro-reform group affected solid waste policies in Beijing and promoted a BOT incineration project.

Figure 2.1: Actors and Their Political Coalitions Related to the Development of the Chinese Incineration Industry, 1989–1997



HISTORICAL BACKGROUND, 1976–1988

After Mao Zedong's death in September 1976, Chinese political elites sought to end the chaos of the Cultural Revolution. Hua Guo-feng, Mao's designated successor, allied with several senior leaders and the military to define a new state agenda. First, in October 1976, this alliance arrested the "Gang of Four," who were treated as the instigators of the Cultural Revolution, with the subsequent trial bringing the Cultural Revolution to a symbolic end (Lieberthal 2004; Vogel 2011; Saich 2016). Second, to maintain his position, Hua Guo-feng aligned with pro-Mao socialists in support of continued pursuit of Mao Zedong's "class struggle" socialist agenda. Consequently, in 1977, Hua Guo-feng became the chairman of the Chinese Communist Party (Vogel 2011).

After Hua Guo-feng's alliance successfully stabilized China's political and economic situation, its socialist agenda was challenged by the pro-reform group. Led by Deng Xiao-ping, the pro-reform group argued that market-oriented reforms were a only way for China to develop economically and escape its status as one of the world's poorest nations (Vogel 2011). Conflicts between Deng and Hua factions peaked at the annual central committee meeting of the Communist Party in 1978, namely the 3rd Plenary Session, and eventually, Deng Xiao-ping's faction emerged victorious. Hua Guo-feng resigned as the party leader, and the market reform and opening-up of agenda was adopted in place of ideological struggle (Lieberthal 2004; Vogel 2011; Saich 2016). Deng Xiao-

ping became the paramount leader of China in 1979 and continued to implement the market reforms announced the 3rd Plenary Session (Pantsov and Levine 2015).¹

After the market reform agenda became official policy in 1979, the pro-reform group employed a moderate strategy and avoided radical market reforms to privatize SOEs that may damage economic stability. Before 1989, the reform had a greater effect in rural agriculture than in urban industrial areas to protect the interests of SOEs (Saich 2016). Under this moderate strategy, the pro-reform group established several important political-legal arrangements that established the market economy from scratch and were relevant to the future development of the incineration industry. First, China permitted individual traders to operate, allowing urban and rural residents to run businesses. Second, the Chinese government employed the first step in the reform of SOEs, namely transferring SOEs into independent entities and expanding autonomy. By using the neo-liberal claim that administrative management was inefficient, China started to separate administrative controls from enterprise management (Zheng Qi Fen Kai) (Qian 1996). In this way, some SOEs ceased to rely on governmental funding and became responsible for their profits and losses. Third, the opening up market reform policies reversed China's international isolation and encouraged China to attract foreign investment and technology. In 1980, China became a member of the World Bank and the International Monetary Fund (IMF).

¹ Although Deng Xiao-ping never formally served as the head of the state, the government, or the Chinese Communist Party, he remained China's de facto leader of China from the 3rd Plenary Session until his death in the mid-1990s (Pantsov and Levine 2015).

During this period, China realized that it lacked the power to influence international policies. Therefore, China participated in international conferences with the aim of learning international political-economic operations (Kent 2002; Johnston 2014). The pro-reform group aligned with this learning approach in the field of national industrialization pursued loans for pilot projects to upgrade the efficiency of SOEs. As a result, experts from international institutions became advisors who offered suggestions on general economic reform policies (World Bank 2005a).

These political-legal arrangements were important because they changed the state structures and created new social actors (i.e., individual sellers, private and state-owned corporations, and international institution advisors). Although the ability of these new actors to influence policies remained weak in this period, their importance would gradually increase (I will elaborate their roles in the following parts of my dissertation).

Environmental and Solid Waste Policies from 1979–1989

From 1979–1989, the Chinese government prioritized economic growth and did not offer a comprehensive environmental strategy. During this period, the Chinese environmental policies had two interrelated characteristics. First, environmental policies followed the concept of “grow first, clean up later.” The restatement of this, the Chinese government focused on the economic development to solve basic problems of food and clothing (Ran 2015). Several environmental regulations passed in this period were not enforced and presume that they would be implemented after the economic growth (World Bank 1992; World Bank 2005a).

Second, environmental policies were influenced by the socialist legacy. Environmental policies fulfilled symbolic functions (Xu 2016), serving as political propaganda through leaders that demonstrated their concern for the environment (Ran 2015). Additionally, environmental policies continued to involve command-and-control regulations. For example, SOEs were required to upgrade low polluting technologies. However, SOEs controlled by central and local governments were unwilling to follow environmental policies. Therefore, the governments acted as both polluter and regulator. The environmental command-and-control policies were inefficient and difficult to implement (World Bank 1992).

Solid waste policies in this period were also influenced by the prioritization of the economic growth and the socialist legacy. First, China maintained a socialist solid waste strategy that treated garbage as a viable resource. In the Mao era, the Chinese government promoted a re-use approach to reduce waste (Feng 2007). The government established a used-goods reclamation system that allowed poor families to earn extra income by selling used bottles, paper, metal and so on (Cen, Li and Randles 2006). After the reform, the composition and volume of solid waste underwent a significant change (Wang and Nie 2011). The previous waste management system proved inadequate to deal with solid waste that included increasing volumes of plastics and textiles. However, the Chinese government continued to emphasize the re-use approach throughout the 1980s in this slogan: “Comprehensive utilization of resources, transfer waste into resources” (Cen, Li and Randles 2006).

Second, when the re-use approach failed to reduce the increase in solid waste, which grew from 31.3 million tons annually in 1980 to 63.9 million tons in 1989 (Wang and Nie 2011), the Chinese government employed socialist command-and-control waste policies. For example, the government established waste allocation guidelines and suggested centralized treatment. However, local governments prioritized economic development and did not allocate funds for solid waste treatment. Given that land use remained relatively non-intensive throughout the 1980s, open dumping of solid waste in urban fringe areas became a primary solution and local governments were unable provide systemic solid waste treatment strategies (World Bank 1992).

Third, the implementation of the re-use approach, waste allocation guidelines, and centralized treatment was responsibilities of different local administrative departments. These departments were responsible for the ultimate fulfilment of solid waste policies, but were not authorized to investigate the factors behind the increase in solid waste or offer a comprehensive solid waste strategy. Toward the end of this period, in 1988, the Ministry of Construction was established and tasked with management of solid waste problems in urban and rural areas. The establishment of this Ministry showed that the Chinese government first identified the relationship between the market reform and increasing solid waste and then appointed a department at the central administrative level to solve the solid waste issue (Chen, Geng and Fujita 2010).

In short, during this period, the Chinese government recognized the conflict between economic development and environmental protection. Specially, in the solid waste field, the Chinese government did not treat solid waste as a serious issue to avoid

jeopardizing economic development. Therefore, no systemic solid waste treatment strategy existed and solid waste authorities merely attempted to clean up the mess associated with economic growth. Solid waste treatment strategy became an issue at the end of this period after the Ministry of Construction was established. China planned its environmental and solid waste treatment strategies after the Tiananmen Square Democracy protests of 1989.

In the next section, I will elaborate how the UN and the World Bank affirmed their neo-liberal environmental strategy.

CRITICISM OF THE UN AND WORLD BANK FROM 1970S–1980S, AND THE RIO UNCED OF 1992

The repeated economic crises in the 1970s and 1980s significantly affected international institutions and MNCs. In response to the stagflation and the large surplus of petrodollars brought by the economic crisis in the 1970s (Block 1977a; Helleiner 1994), the World Bank employed a new developmental strategy that offered developing countries generous loans for infrastructure projects focused on the export of raw materials and provision of utility services. The World Bank expected this strategy to combat poverty and propel economic growth in developing countries (Goldman 2007). However, it created a new crisis. In the 1980s, many developing countries that borrowed substantial amount of money from the World Bank could not repay the loans after the prices of raw materials dropped (Goldman 2007; Schaeffer 2009). The debt crisis resulted in developing countries' monetary crises as well as a critique that international institutions merely created a lending

trap (Weaver 2008). By the 1980s, the recurrent economic crises threatened international institutions' developmental agendas and MNCs' survival.

In a separate political arena, MNCs and international institutions were blamed for global environmental degradation. Western countries began to experience severe pollution after the two decades of rapid economic growth that followed World War II. This led to the emergence of domestic ENGOs, which mobilized to pressure governments and polluting corporations. According to Longhofer and Schofer, more than 1100 domestic ENGOs were established in industrialized countries during 1965–1975, almost equaling the number established during 1950–1964. Furthermore, ENGOs pressured administrations in Western countries to pass environmental regulations (Longhofer et al. 2016).

As environmental problems became globally significant, domestic ENGOs in different countries formed alliances, leading to the emergence of transnational ENGOs that aimed to proactively deal with global environmental issues (Inglehart 1977; Bernstein 2001; Clapp and Dauvergne 2011). The 1970s witnessed the establishment of a significant number of transnational ENGOs, such as Greenpeace, the Natural Resources Defense Council, and Friends of the Earth. While established originally as US and Canadian organizations, these groups developed international reach during the 1970s. The developmental strategies of MNCs and international institutions with their prioritization of economic growth over all else were criticized for causing environmental degradation. For example, environmental groups complained that the World Bank's projects ignored environmental impacts and contributed to the destruction of ecological systems (Nielson

and Tierney 2003). Transnational ENGOs urged international institutions to develop environmentally friendly development agendas (Princen and Finger 1994).

In response to numerous political challenges from environmental groups, the UN and the World Bank employed several reforms to demonstrate their concern for the environment. For example, in 1972, the United Nations Conference on the Human Environment (Stockholm Conference) established the United Nations Environment Programme to prevent ecological degradation. In 1983, in response to continuous pressure from environmental groups, the UN held an important international conference, the World Commission on Environment and Development. In 1987, this conference released the “Brundtland Report”, formally titled Our Common Future. This report concluded that the weak bargaining power of developing countries led to MNCs posing a threat to the global environment and to interlocking crises involving the environment and economy (World Commission on Environment and Development 1987; Hecht 1999). After the Brundtland report, environmental groups focused their efforts on another crucial international environmental conference, the Rio UNCED.

A Contested Terrain: The Rio UNCED

In response to strengthened environmental regulations and the upcoming Rio UNCED, 48 world business leaders (including leaders of incineration companies) created the Business Council for Sustainable Development (BCSD) in 1990 (Welford and Casagrande 1997). Organized by Dr. Stephan Schmidheiny, a Swiss industrialist, the BCSD stated its aim as being to “provide advice and guidance to the UNCED secretariat on initiatives and activities undertaken by business and industry” (Centre for Our Common

Future 1990). As Schmidheiny expressed, the primary objective of the BCSD was to promote the neo-liberal claim that markets created incentives to address economic and environmental problems simultaneously. The BCSD announced its agenda as being “to recognize that market-based instruments belong in our portfolio of environmental and natural resource policies” (Schmidheiny 1992).

The influence of BCSD on the UNCED was associated with its ability to organize a political coalition within the UN body. During the preparation ahead of UNCED, the BCSD utilized the UNCED policy-making structures and its resources to establish coalitions with pro-business UN officials. First, the BCSD changed the UNCED’s policy-making structures. For example, Maurice Strong, the UNCED Secretary-General, was also a leader in the Canadian oil and mineral industry (Bruno 1992a; Masood 2015).² Strong used his relationships with MNCs, to have BCSD chairman, Dr. Schmidheiny appointed as the principal adviser for the UNCED (Welford and Casagrande 1997). The BCSD’s public relations consultant, Burson-Marsteller, was also appointed to assist the UNCED’s public relations. Second, the BCSD succeeded in persuading the UNCED secretariat to allow MNCs to donate funds to support UNCED operations (Wurst 1992; Chatterjee and Finger 1994). According to Wurst’s estimation, approximately one fifth of the UNCED’s expenditure, or US\$16.9 million, was funded by corporations, including numerous heavily

² When Strong served in the UN, he also acted as a leader of Canadian oil and mineral companies (Bruno 1992a; Masood 2015). This background allowed him to establish close business ties with MNCs (Chatterjee and Finger 1994).

polluting MNCs (Wurst 1992). The Earth Summit Times reported the observation of a UN Staff member that although corporations had donated to UN events before, the scale of the assistance given to the UNCED was unprecedented (Fraser 1992a; Gould 1992).

The political coalition of the BCSD and UN pro-business officials transformed the decision-making processes of the UNCED. That is, the BCSD was permitted to participate in the consultative process of the UNCED, which represented the early stages of preparatory meetings (Ekins 1993; Chatterjee and Finger 1994). Through this transformation in MNC-UNCED relations and the UNCED's policy-making structures, the BCSD could now impose a neo-liberal agenda during the UNCED's preparatory process and utilize their substantial resources to offer suggestions to the UNCED secretariat (Chatterjee and Finger 1994; Doyle 2010).

In contrast, although more than 700 ENGOs from 164 countries created the Global Forum as an alliance to monitor and participate in the UNCED, they could not match the influence of the BCSD (Fraser 1992b). The Global Forum could not establish a political coalition with the UNCED officials and utilize the UNCED policy-making structures as the BCSD did. During the UNCED, members of the Global Forum were aware of the BCSD's increasing influence on the UNCED (Greenpeace International 1992; Adams 2001). In response, the Global Forum proposed increasing regulations on MNCs and also criticized the close relationship of the UNCED secretariat with MNCs (Fraser 1992d; Greenpeace International 1992). However, because the Global Forum had limited resources and was excluded from discussions except during the formal Preparatory

Committees (Bruno 1992b), its efforts at augmenting the UNCED agreement were weak and ineffective (Fraser 1992e).

To summarize, utilizing the political coalition with the UNCED's pro-business officials and diverse channels to access the decision-making processes, the BCSD successfully inserted its neo-liberal agenda into Agenda 21 passed by the UNCED in 1992. With this move, the BCSD successfully reversed a political tendency of blaming MNCs and international institutions for global degradation and economic problems. Consistent with neo-liberalism, Agenda 21 concluded that sustainable development can only be achieved through free trade, privatization, and investment by MNC, and public-private partnerships (United Nations 1993; Chatterjee and Finger 1994; Doyle 2010).

The World Bank's Reform and the Rio UNCED

By the 1980s, the World Bank's projects had been heavily criticized by environmental groups for damaging the ecological systems and economies of developing countries (Chatterjee and Finger 1994; Goldman 2007). In response to such criticisms, the World Bank announced a lending policy reform that made the World Bank Environment Department responsible for enhancing project environmental standards.

However, at this historical juncture where neo-liberalism was the dominant economic ideology, the World Bank's proposed reforms were challenged. This occurred in several ways. First, even after the debt crises involving developing countries in the 1980s, the IMF continued to use its Structural Adjustment Programs as viable solutions. Drawing upon neo-liberalism, the Structural Adjustment Programs made lending conditional on market reforms, privatization, and restrictions on social welfare. The World

Bank's economic and financial departments also aligned with these policies. Furthermore, because the World Bank Environment Department was small and had limited resources, it was forced to follow the guidelines of other departments, especially the Economic and Financial Departments (Nielson and Tierney 2003).

Second, during the UNCED's preparatory process, the BCSD also influenced the World Bank. Being affiliated with the UN, the World Bank was involved in the UNCED's decision-making processes. Therefore, the BCSD's efforts to alter the UNCED's policy-making structures also influenced the World Bank. Expecting that the BCSD's neo-liberal agenda could facilitate the funding of a substantial number of environmental projects, the World Bank aligned with the BCSD and pro-business officials at the UNCED, and also became a joint partner of the UNCED's new funding institution, the Global Environment Facility (Freestone 2013). The Global Forum criticized the World Bank for fully accepting the BCSD's agenda and merely seeking to maintain its dominance over loan distribution (Fraser 1992c).

As a result, neo-liberalism and the transformation of the UNCED's policy structures affected the World Bank's reforms, with the result that the World Bank Environment Department maintained its previous lending policies, despite those policies being heavily criticized. During the UNCED preparatory process, the World Bank Environment Department devised environmental strategy papers for developing countries, the content of which client countries were required to follow to secure loans. This strategy forced client countries to employ neo-liberal reforms, such as market incentive mechanisms, financial reforms, etc. (Wade 1997; Upton 2000).

The signing of Agenda 21 at the Rio UNCED in 1992 saw MNCs and international institutions impose their version of sustainable development on developing countries. As a new lending institution, the Global Environment Facility became an essential instrument for utilizing loans as leverage to pressure developing countries. Collaborating with MNCs, the Global Environment Facility established a performance based resource allocation framework to evaluate various environmental projects. The framework incorporated the “free-market” into measures where a government “adopted neo-liberal economic policies (i.e., liberalization and privatization in the context of strict budgetary discipline)” (Ervine 2007).

In summary, although campaigns by environmental groups after the 1970s spurred environmental awareness in the world and resulted in the Rio UNCED of 1992, MNCs and UN agencies successfully redefined the agenda of sustainable development. This section denotes that MNCs mobilized politically to form a political coalition with the UNCED secretariat. By utilizing this political coalition, MNCs were able to access UNCED’s decision-making processes. As a result, MNCs achieved the aim of sustainable development with a neo-liberal agenda, which included privatizing inefficient public utilities, importing foreign investment and technology, increasing the loans from international institutions, and establishing public-private partnerships. After all the countries signed Agenda 21 at the UNCED, the next step for the MNCs and international institutions was to impose this version of sustainable development on developing countries. In the following sections, I will explore why China agreed with the global environmental agendas of the UN and the World Bank.

POLITICAL AND ECONOMIC CRISIS:

THE TIANANMEN SQUARE PROTESTS OF 1989

The Tiananmen Square democracy protests was a historical condition that a political crisis prompted political elites to seek solutions. Led by Deng Xiao-ping, most Chinese Communist Party leaders (including top reformist officials, the anti-reform group, and the military) decided to repress the protests on June 4th, 1989. The repression identified a state agenda that China's development must be led by the Chinese Communist Party. As a result, discontented social actors were forced to support the regime and few reformist officials who supported the protests, including the chairman of the Chinese Communist Party Zhao Zi-yan, were arrested.

Although the event provided political stability, it also produced other political and economic shocks. First, Western countries imposed sanctions that halted most of international collaborations with China. The sanctions heavily impacted the Chinese economy.³ Second, the dissolution of the Soviet Union and the collapse of communism in Eastern Europe worsened China's international isolation (Robinson 1994; Deng 2005). Third, because the repression caused political uncertainty, new foreign and domestic

³ The European Economic Community, the predecessor of the European Union, for instance, declared a set of sanctions, including cancelling all high level contact, economic co-operation, and loans (Youngs 2002; Giumelli 2013). The United States suspended military sales and commercial exports to China (Freidman 1989; McFadden 1989; Skidmore and Gates 1997). The World Bank and the Asian Development Bank determined that they would delay discussions regarding two loans for China and several loans that were already in the pipeline would be frozen in consideration of the new loans (Skidmore and Gates 1997).

investment from private sectors declined and the energy of Chinese economic development deteriorated (Seo 1993; Chen 2008).

In response to the shocks, political elites allying with other social actors divided into two groups. (1) The pro-reform group consisted of the remaining reformist intellectuals and officials expressed their disagreement with political reforms. This group insisted that the economic disorder resulted from unfinished market reforms. This offered opportunities for corrupt officials and the wealthy to engage in rent-seeking behavior (Zhang 2010a). The group allied with international financial institutions to embrace the neo-liberal economic agenda and promote further market reforms. (2) An anti-reform group consisted of anti-market-reform officials and intellectuals who were leftist and pro-Mao socialists. The anti-reform group argued that the protests occurred because the market reform had produced economic disorder and emerging capitalists had supported the radical students. Both groups offered different state developmental agendas. Therefore, the anti-reform group argued that China should follow Mao's socialist road map, whereas the pro-reform group emphasized the deepening of the market reform (Han 1993; Ma 2012). After the protest, the influence of the pro-reform group was weakened because few important pro-reform leaders were arrested and Deng Xiao-ping maintained his neutrality. As a result, the anti-reform was strengthened and sought Deng Xiao-ping's support in the state development agendas. Among the agendas, the environmental diplomacy strategy was treated as an important means to block the international isolation.

A Potential Starting Point: The Environmental Diplomacy Strategy

As described in the previous section, before 1989, China did not promote a specific agenda at international conferences and simply participated without leveraging environmental diplomacy.⁴ The initiative for China to employ environmental diplomacy was an outcome of the Tiananmen Square event. The repression of the protest in 1989 maintained the Chinese regime's stability. However it also produced a new political and economic impact, including the international sanctions and the declines in private investments. The impact was a historical condition that the pro- and anti-reform groups mobilized politically to define new agendas as well as to restore the international collaborations.

By the early 1990s, unlike other international economic and military collaborations, the environmental issues (1) did not require political sensitive conditions (i.e., human rights and democracy) and (2) was an agenda where international institutions had looked to developing countries for participation, especially the upcoming UNCED. Therefore, after 1990, the Chinese government decided to employ an environmental diplomacy strategy in order to break the international isolations. In short, Chinese elites pursued

⁴ Based on the documents I collected, environmental diplomacy was not an important environmental policy for the Chinese government before the Tiananmen Protest. For example, before 1989, environmental diplomacy did not appear on the Environmental Protection Committee's annual Work Key Points. (Environmental Protection Committee 1990).

environmental policy as a means to resolve the conflicts with Western countries and international institutions.

The 1990 Work Key Points of the Environmental Protection Committee⁵ indicated the importance of participating in the UNCED and applying for environmental projects with the World Bank, UN Development Programme, and the UN Environment Programme (Environmental Protection Committee 1990). The Chinese government negotiated with the World Bank to loosen the environmental loan limitations in 1990. The World Bank issued the first step, “strategy development assessment”, in their environmental lending process in 1990. Later, the World Bank employed the Beijing Environmental Project in 1990, and published the China Environmental Strategy Paper in 1992 (World Bank 1992). In an internal document, the Ministry of Foreign Affairs argued that by participating in the UNCED, it would help “repair relationships with the Western countries by breaking up the sanctions that were in place” (Ministry of Foreign Affairs 1992).⁶

The pro-reform group and the anti-reform group put their own agendas on the environmental diplomacy strategy’s implementation. The pro-reform group attempted to utilize the international environmental participation as a window of opportunity to expand

⁵ The Work Key Points of the Environmental Protection Committee was an annual guideline for Chinese environmental administrative practices for internal reference. The Work Key Points represented last years’ environmental practices’ summary and the next year’s plans.

⁶ This and all other translations of the documents were conducted by the authors.

international collaborations, and to reimport foreign investment and technology. This would deepen open-door and reform policies (Qu 1992).⁷ In contrast, the anti-reform group agreed to participate in environmental conferences to break the international isolations. The anti-reform group expressed a viewpoint that international institutions in developed countries should not pass policies to damage China's interests and sovereignty (Song 1989).⁸

Deng Xiao-ping's Southern Tour and Deepening of the Market Reform

The conflicts between the pro- and anti-reform groups continued in the debate over the state developmental agenda. First, they utilized state-owned media to influence public opinion. Second, they utilized formal and informal relationships to influence Deng Xiao-ping. (Han 1993; Yeh 1994; Zhao 1998; Ma 2012). After evaluation of the competing reform arguments and China's developmental demands, Deng Xiao-ping made a decision

⁷ For example, Qu Ge-ping, the director of the State Environmental Protection Administration, posited that Chinese environmental problems could only be resolved by Western countries' advanced management and technology. On the condition that developed countries did not threaten the Chinese Communist Party regime, China had to withdraw the alert that international institutions and developed countries helped China to reform its environmental policies (Qu 1992).

⁸ For example, the Environmental Protection Committee's chairman, Song Jian, made a statement in the first conference after the Tiananmen Protest. He emphasized: "This conference is postponed because of the counterrevolutionary riot ... We have to pay close attention to tendencies of international environmental protection and actively participate in them ... Developed countries and capitalist countries have their purposes. We have to employ independent diplomatic policies, ... , and ally with third world countries (Song 1989)."

through a political action. Between January 18th and February 21st 1992, Deng Xiao-ping embarked on his southern tour⁹, during which he displayed his support for the pro-reform group by giving several pro-reform speeches (Goodman 1994; Saich 2016). Deng's actions restricted the agenda of the anti-reform group and ensured that China would continue to pursue market and economic reforms (Goodman 1994; Zhao 1998).

After the reform was assured, the Chinese government appointed Premier Li Peng to represent China, at the Rio UNCED in June 1992 and sign Agenda 21 (Ministry of Foreign Affairs 1992). In July 1992, the Chinese government started the preparatory process regarding China's Agenda 21 to reach the commitment to the UNCED.

To summarize, this section demonstrates that the Tiananmen Square democracy protests was a historical condition that political and economic crises required the state leaders and social actors to define the state agendas. Although the repression identified an agenda that China's development must be led by the Chinese Communist Party, it resulted in the international isolation and declines in private investments. As a result, the pro- and anti-reform groups mobilized politically to define their own state agendas. The pro-reform group's success in ensuring the market reform by aligning with the environmental diplomacy strategy and utilizing the state structures to influence Deng Xiao-ping. The reaffirmation of the reform in February 1992 also resulted in China's participation into the Rio UNCED in June 1992 and the agreement of pro-neo-liberal Agenda 21.

⁹ Deng visited Guangzhou, Shenzhen, and Zhuhai and spent the New Year in Shanghai.

EFFORTS TOWARDS THE MARKETIZATION OF THE ENVIRONMENTAL POLICY STRATEGY DURING THE ECONOMIC GROWTH PERIOD, AFTER 1992

During 1992 and 1993, conflict arose in a historical condition in which China's annual GDP growth rate reached 14.1% and 13.9%, respectively. By 1993, as the significant economic boom cause inflation, the anti-reform group attacked the pro-reform group for causing the country's economy to overheat through its pursuit of market reforms. Pro-reformist officials allying with the international institutions argued that inflation occurred because the reforms were incomplete (Dong 2007; Ma 2012). The capacity of this political coalition to promote further market reforms involved use of the state structures. First, when reformist officials gained control over the state-owned newspaper, the pro-reform group used this state structure to influence public opinion.¹⁰ Second, reformist officials created a decision-making process open only to the members of the pro-reform group to solve the inflation issue. In June 1993, China's State Economic System Reform Committee collaborated with the World Bank to hold the international workshop on "China's Macro-economic Reform" in Dalian. The workshop was attended by 14 foreign scholars and World Bank officials as well as 24 Chinese government officials.

¹⁰ For example, in November 1993, Mr. E. C. Hwa, Senior Economist with the World Bank Office in Beijing, offered an internal report to the Chinese government. After reading the report, Vice Premier Zhu Rong-ji instructed the People's Daily newspaper to publish the full report. This action reflected the World Bank expert's opinion in accordance with the reformists (Lu 2005).

Reformist officials directed the pro-reform conclusion of the workshop, which became the basis for the State Council's solution to the inflation issue (Lu 2005). On June 24, 1993, 11 days after the end of the workshop, the State Council announced "The Opinion about the Current Economic Situation and Macro-economic Management," in the Article Sixteen (Hu, Huo and Yang 2012). The announcement ensured pro-market macro managerial systems in the fiscal, taxation, foreign exchange and pricing fields (Lu 2005; World Bank 2005a).

In a separate political arena, the historical condition of economic growth also affected the marketization of environmental policy strategies. At the Rio UNCED in 1992, China's increasing international integration validated the environmental diplomacy strategy. The reformists and international institutions were optimistic that the World Bank and Agenda 21's marketization of environmental policy strategies could swiftly be established in China. For example, the Chinese delegation of the UNCED submitted an internal report to the Chinese Communist Party and the State Council after the UNCED. The delegation argued that "The UNCED was an important step for human development. The documents and treaties signed in the UNCED will enforce all countries in the world. It is an opportunity as well as a challenge for all countries. We should grasp this opportunity to promote the sustainable development" (Chinese Delegation of the UNCED 1992).

However, when inflation emerged, foreign investments, including the UN and World Banks's projects, were blamed for overheating the economy. In response, the anti-reform group proposed restricting foreign investment. Although pro-reformist officials

successfully blocked the restriction of foreign investment, the marketization of environmental policy strategies provoked other conflicts. During the drafting of China's Agenda 21 and the implementation of the China Environmental Strategy Paper, the UN and World Bank demanded comprehensive reforms to privatize public utilities by establishing a fee-collecting system, new financing rules, and the private environmental industry. (World Bank 1992:4, 57-60). However, conflicts between supporters and opponents of the marketization of the environmental policy strategy emerged from two pro-reform suggestions. First, the UN asked China to meet high standards in terms of reductions in carbon emissions and the high ratio of coal-fired power energy generation. Second, the UN and the World Bank suggested a comprehensive reform plan for private sector participation in public utility construction markets to promote public-private partnerships (PPP)¹¹ policies. Thus both supporters and opponents of the marketization of the environmental policy strategy utilized the changes in the state structures, political coalitions, and neo-liberalism to influence policies.

Actors of Response to the UN Demands

Opposition to the demands for reductions in carbon emission emerged from the State Planning Commission and the Ministry of Coal Industry. The State Planning Commission was the most important economic department in the State Council, and

¹¹ Based on the World Bank's definition, PPP is "a long-term contract between a private party and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility, and remuneration is linked to performance."

integrated the options of other departments before offering a macro control economic strategy. From the perspective of the State Planning Commission, the UN's demand violated the current economic strategy which prioritized economic development. According to this strategy, replacing coal-fired power generation with other clean energy was unrealistic in the short term (Rong 1995). As the ministry responsible for coal exploitation, distribution, and consumption, the interests of the Ministry of Coal Industry were naturally damaged by the reduction of coal-fired power generation.

During the debate, pro-reformists allied with state departments that had competing interests in coal-fired power plants for example, the Ministry of Water Resources (responsible for hydroelectric generation) and other energy producing bureaus within the Ministry of Power Industry (especially the bureau responsible for nuclear power generation). The reformists and allied state departments formed a political coalition with the UN and the World Bank to support the UN demands (State Science and Technology Commission and State Planning Commission 1992; Niu 1994).

As the conflict intensified, the capacity of this political coalition to influence policy became associated with the use of new state structures created by the UN and the World Bank. First, to meet the requirements of the UN, the Chinese government appointed the State Planning Commission and the State Scientific and Technological Commission to take the lead in forming China's Agenda 21 leading group in 1992 and in 1993 established the Administrative Center for China's Agenda 21 (ACCA). The task of the leading group and the ACCA was to fulfill China's Agenda 21 by coordinating with relevant state departments and negotiating with the UN. Second, to fully comprehend the

World Bank's lending requirements, the Ministry of Finance established the Project Management Office at the central (National Project Management office) and local (Local Project Management offices) administrative levels to review and manage all World Bank projects (Ceng 2004; World Bank 2005b; Tan 2013).¹²

These new state structures were important because they demonstrated that the World Bank and the UN established branches in the Chinese government. World Bank and UN staffs not only served as external advisors, but were authorized to instruct departments and influence policies. These political-legal arrangements allowed the pro-reform group to expand their influence on more departments and form a broader political coalition. For example, the Project Management Office in the Ministry of Finance could pressure the Ministry of Finance to support the marketization of environmental policy strategies (World Bank Department of Ministry of Finance 1996; Ceng 2004; World Bank 2005b; Tan 2013).

Consequently, despite a few compromises, the final version of China's Agenda 21 included the following two crucial rules that promoting the market-oriented reform and incineration: (1) The UN and the World Bank encouraged the State Council, the Ministry of Water Resources, and the Ministry of Power Industry to apply for construction loans to fund clean energy projects with aid funds for sustainable development, especially

¹² The Local Project Management Offices were established by bureaus of finance at the provincial level and were directly controlled by the National Project Management Office in order to eliminate local governments' self-interest.

hydroelectricity (Niu 1994).¹³ China's Agenda 21 listed clean energy facilities, including incinerators, and argued that in the long term such facilities would substitute for coal-fired power generation. This marked the first time that Chinese official documents treated incineration technology as clean energy. (2) The Ministry of Coal Industry agreed to upgrade the efficiency of coal-fired power plants

These two rules supporting the introduction of clean energy and the upgrading of coal-fired power plants created new political-legal arrangements that transformed the state structures. MNCs, the UN, and the World Bank then leveraged their capital and technological advantages to force the Chinese government to promote further reforms. Three practices in the implementation of these rules significantly influenced the promotion of the marketization of the environmental policy strategy and incineration. First, MNCs, the World Bank, and UN utilized the rules to justify BOT reform to draw foreign investment (The BOT reform will be discussed in the next session).

Second, the Chinese government applied to the Ertan Hydropower Station with the World Bank. The conditions included establishing a new company instead of a bureau in the Ministry of Water Resources to operate Ertan. This new company became an independent power producer (IPP), which had a self-interest and profit orientation. As a result, this change in the state structure provided a transformation of political-legal

¹³ Niu Mao-sheng, the minister of the Ministry of Water Resources, posited that China's Agenda 21 was a good opportunity for the Ministry of Water Resources to address problems pertaining to the shortage of water resource facilities (Niu 1994).

arrangements that the state and social actors could exercise power to influence policies in the future (I will describe this case in Chapter III).

Third, these political-legal arrangements significantly affected the promotion of incineration technology because they changed the state structures for MNCs to access the state departments responsible for solid waste policy. For example, China's Agenda 21 enabled formal collaboration between MNCs and the Ministry of Construction. As described above, the Ministry of Construction was established in 1988, with one of its functions being to address the growth of urban solid waste. When China's Agenda 21 called for proposals in 1993, the Ministry of Construction submitted a proposal entitled "Municipal Solid Waste Management Systems, Technical Standards and Capacity Building in China". The purpose of the project was to "strengthen the capability of the municipalities with China to better manage municipal solid waste, through both direct support to selected demonstration cities as well as through strengthening of the Ministry of Construction at the central level. This will increase its capability to develop appropriate strategies and provide advice to the municipalities in planning municipal solid waste management and operations on an on-going basis" (United Nations Industrial Development Organization 1998).

One important activity of the project was to train officials in the Ministry of Construction and local governments. Shi Zhi-hong, who is an important urban solid waste policy maker and was a member of the internal working group of the project, recalled that "participating in this project was very important to my career. The training taught me a systematic view of municipal solid waste management. I learned scientific analysis of

municipal governance and the relationships between urban development phases and appropriate solid waste treatment” (Interview Shi Zhi-hong, June 17, 2016). According to the UN project document, this project received donations from the Swiss government and the foreign advice team of the project was managed by the Swiss government. To promote incineration technology, the Swiss government appointed Kurt Wiesegart, who was an ex-staff member of the AAB Group (one of biggest companies in Switzerland. Incineration was its most important component), as an advice team leader. Shi admitted that “Mr. Wiesegart’s professional advice convinced the Ministry of Construction to put incineration into a more important role in solid waste management” (Interview Shi Zhi-hong, June 17, 2016). In short, the project of China’s Agenda 21 allowed the MNC to influence the Chinese government to take incineration into consideration.

BOT Reform at Central Administrative Level

After the Rio UNCED in 1992, the BCSD continued to use the political coalition with the UNCED officials and the UNCED pro-business structures to influence the practice of Agenda 21. After several discussions about eliminating “institutional barriers” between the BCSD and the UN, the UN agreed to change its organizational structure to set up a new program with the BCSD. In 1994, the BCSD established the Sustainable Project Management program in partnership with the United Nations Development Programme. This change in the political-legal arrangement was important because MNCs not only had a lobbying relationship with the UN, but they also became deeply involved in the UN’s operation of sustainable development.

The primary objective of Sustainable Project Management was to promote PPP. Hugh Faulkner, the BCSD's president, claimed that Sustainable Project Management's aim was to create pilot water, waste, and energy infrastructure projects in developing countries' Agenda 21 in order to (1) demonstrate that the PPP practices were able to bring efficiency and green technology and (2) encourage developing countries' "political will" to reform institutional arrangements to benefit the PPP (Faulkner 1997b; Faulkner 1997a). The establishment of the Sustainable Project Management program showed that promoting PPP in developing countries had become the policy of MNCs, the UN, and World Bank in support of sustainable development after the Rio UNCED in 1992.

As described in the above section, the UN and the World Bank attempted to impose PPP on China during the drafting of China's Agenda 21 and the implementation of the China Environmental Strategy Paper. Their efforts strengthened after China's Agenda 21 identified as core goals to promote clean energy and upgrade coal-fired power plants.

There are many forms of PPP.¹⁴ In the 1990s, the UN and the World Bank primarily promoted BOT in China in which the private sector builds an infrastructure project, operates it and eventually transfers ownership of the project to the government. The UN and the World Bank's promotion of BOT divided the Chinese state departments

¹⁴ According to the World Bank, PPP includes SC (Service Contract), MC (Management Contract), LBO (Lease-Build-Operate), DBT (Design-Build-Transfer), BT (Build-Transfer), BOOT (Build-Own-Operate-Transfer), BTO (Build-Transfer-Operate), TOT (Transfer-Operate-Transfer), BOT (Build-Operate-Transfer), and BOO (Build-Own-Operate).

into two groups. The anti-BOT group was primarily comprised of anti-reformists and departments which were still responsible for constructions of public utilities. The pro-BOT group primarily consisted of reformists and departments which were responsible for economic development and finance. The UN and the World Bank aligned with the pro-BOT group to resist the anti-BOT group's opposition.

Similar to the scenario with the UN's demand for carbon emission reductions, the policy influence of the two competing groups depended on their ability to use and redefine the state structures. The changes in the state structures provided opportunities for the pro-BOT group to pressure crucial departments and expand its alliance with those departments. The first such department was the Ministry of Finance, which was responsible for financing and budgeting. Due to the World Bank's requirements, the Ministry of Finance established the National Project Management Office to monitor projects related to the World Bank. This arrangement gave the World Bank a state structure and associated funding channel that could be used as leverage to influence the Ministry of Finance. Making the neo-liberal argument that public utilities were inefficient, the pro-BOT group and the World Bank convinced the Ministry of Finance that promotion of BOT projects could avoid the heavy debt associated with inefficient public utilities (World Bank Department of Ministry of Finance 1996; Ceng 2004; World Bank 2005b; Tan 2013).

The second department was the ACCA. After the creation of the ACCA, the UN continued to exert its power to initiate preparations for the implementation of China's Agenda 21. The UN used funds and technological knowledge as leverage to pressure the ACCA to pass a process by which it collected project proposals from all departments and

submitted them to the UN for examination. In this way, the UN could reject and amend departmental projects relevant to the China's Agenda 21. János Pásztor, UN Development Programme's chief of the consultant group, admitted: "[The] UN Development Programme's role has been crucial in many ways – not least of all due to the fact that it is through a UN Development Programme project that activities of this project have been developed, supported and implemented" (Pásztor 1993). ACCA director Gan Shi-jun revealed that "the UN Development Programme corrected the draft proposals chapter by chapter" (Gan 1993).

Additionally, in the preparatory process, the UN also created a mechanism that allowed MNCs to influence the Chinese government. This process stipulated that the ACCA held a roundtable conference to affirm that the projects adequately met the criteria of all those donating funds (i.e., MNCs, the World Bank, and the UN).

These changes in the state structures permitted MNCs and the international institutions to fulfill their agenda by influencing the Chinese government. The UN and MNCs raised doubts about the financing of project proposals without considering BOT during the preparatory process. For example, at the roundtable conference in 1994, Edwin Falkman, the executive chairman of Waste Management International (one of the biggest incineration companies globally) suggested that the Chinese government had to demonstrate a deep commitment to BOT and the privatization of public utilities (Falkman 1994). Hugh Faulkner, president of the BCSD, reiterated that the BCSD's only objective in China was the establishment of PPPs (Faulkner 1994). As a result, in 1994, the State Council passed China's Agenda 21, which formally agreed to utilize diverse investment

forms to support projects, including aids, loans, sole proprietorship, joint capital, and BOT (State Planning Commission and State Science and Technology Commission 1994).

Later, expecting that China's Agenda 21 would create a number of BOT projects, the pro-BOT group mobilized politically to change the state structures. First, the State Planning Commission invested in two BOT consulting companies: Beijing BOT Ltd. and Trust of Bridge Basic Installation Investment Consulting Ltd. The leaders of these two companies were the State Planning Commission officials going into business (Mao and Chen 1997; Jin 2014). These corporations dealt in project consulting, project feasible reports' writing, project supervision, assets evaluation, etc. (Beijing Engineering Consulting Corporation 1995).

Second, supported by the UN and the World Bank, the Chinese central government held two important international conferences. In 1994, the same year when China's Agenda 21 was approved by the State Council and sponsored by the World Bank and the Asian Development Bank, the State Planning Commission held an international conference related to BOT investment in May 1994. Half a year later, in November 1994, the State Planning Commission and the World Bank held another international conference regarding the policies of foreign direct investment in public utility infrastructure (Liu 1995; Mao and Chen 1997). An official of the Ministry of Water Resources who was responsible for foreign investment management said that "the main purposes of the conferences was to refer to foreign experiences in order to attract foreign investment and develop infrastructure facilities and industry" (Liu 1995).

As a result, despite resistance from the anti-BOT group, in the second half of 1994, the State Planning Commission and the UN Development Programme collaborated to establish a BOT legal framework. In January 1995, the Ministry of Foreign Trade and Economic Cooperation announced “The Notice of Concerning Issues of Using BOT to Attract Foreign Investment.” The State Planning Commission, the Ministry of Electric Power, the Ministry of Communications announced “The Notice of Concerning Issues of the Examination and Approval Administration of Foreign Investment in BOT” in August 1995 (Zhai 2003).

These two BOT notices were important because they provided political-legal arrangements to enforce BOT projects. First, they provided legal protection for BOT projects. The two notices reduced investment risks faced by MNCs in relation to BOT projects, such as political and default risks.¹⁵ Second, pro-BOT officials could refer to the two notices to overcome resistance. Third, the two notices provided a route for foreign investment to enter local markets. When China faced budget restrictions and dissatisfaction with the inefficiency of public utilities, BOT notices became an important means for local officials to introduce foreign investment to grow local economies, including in Beijing.

¹⁵ In the 1980s, although China operated a few pilot projects for BOT (most of them were electrical power and transportation constructions) at a local level, the Chinese government did not pass any law or orders pertaining to BOT (Zhai 2003; Jin 2014).

The Establishment and Practices of the Beijing Waste Management Strategy

In Beijing, the promotion of the marketization of the environmental policy strategy represented another contested terrain. In 1990, after launching its environmental diplomacy strategy, the Chinese government immediately encouraged the World Bank to implement the China Environmental Strategy Paper. Making Beijing a focus in promoting the marketization of the environmental policy strategy, the World Bank submitted the Beijing Environmental Project in 1990 as a sub-program of the China Environmental Strategy Paper.

Similar to China's Agenda 21 and the China Environmental Strategy Paper at the central level, the enforcement of the Beijing Environmental Project confronted local resistance. In response, pro-reform officials and the World Bank mobilized politically to use changes in the state structure to fulfill their agenda. First, the World Bank demanded that the Beijing's financial authority, the Beijing Finance Bureau, established the Local Project Management Office. This new state structure provided the World Bank a lever with which to influence the Beijing Finance Bureau. Using the neo-liberal claim that public utilities were inefficient, the pro-BOT group and the World Bank convinced the Beijing Finance Bureau that BOT projects offered a means to avoid debt (Ceng 2004; World Bank 2005b; Tan 2013).

The second change in the state structure occurred in the Beijing Planning Commission. Similar to the State Planning Commission at the central government level, the Beijing Planning Commission was the most important economic department in the Beijing government responsible for offering macro control over the economic strategy of

Beijing. In 1989, the Beijing Planning Commission established the Beijing Engineering Consulting Corporation as a corporatized pilot project. Expecting that the UN and the World Bank's BOT proposals would create business opportunities, the Beijing Engineering Consulting Corporation created a BOT analysis team in 1992. This change of the state structure was important because the profits of the Beijing Engineering Consulting Corporation were associated with income of the Beijing Planning Commission, giving the latter an incentive to promote BOT (Zhu, Ji and Zhang 1992; Beijing Engineering Consulting Corporation 1995).

With the support of the Beijing Finance Bureau and the Beijing Planning Commission, the pro-reform group utilized these state structures to broaden its political coalition with officials in these two departments. The political coalition of the pro-reform group continued to exert its power, and did so in the following ways.

First, the UN and the World Bank's sustainable development agenda significantly influenced on Beijing's solid waste management strategy. Using their advantages in terms of funds and technology, the UN and the World Bank influenced the Chinese government's solid waste management. In fact, given that China did not have a comprehensive strategy before 1989, the UN and the World Bank helped create China's first solid waste management strategy. To define China's solid waste management strategy, China's Agenda 21 and the China Environmental Strategy Paper prioritized the solid waste issues. For example, urban solid waste management was an independent project among China's Agenda 21 priority projects in 1994. In the Beijing Environmental Project, the World Bank funded the Beijing government to build a landfill facility. Through funding

these projects, the UN and the World Bank promoted a new strategy whereby solid waste treatment became part of the broader process of reforming China's economy. Using the claim of sustainable development, the UN and the World Bank emphasized that market reform only negatively impacted solid waste in the short term. When the market reform created a fee system for waste disposal, private corporations, and credit markets, private corporations seeking profit were encouraged to invest in solid waste treatment and provide efficient services. The market economy and solid waste management thus offered mutual support in the long term (World Bank 1991; World Bank 1992). Shi Zhi-hong, who is an important urban solid waste policy maker I mentioned in the previous section, recalled that in the 1990s, the UN and the World Bank primarily used the marketization strategy to promote solid waste management. He said: "They [the UN and the World Bank] attempted to promote industrialization and private enterprises to increase efficiency. Therefore, they suggested to use PPP and privatization to establish the incineration industry" (Interview Shi Zhi-hong, June 17, 2016).

Specifically, in 1996, the World Bank created a new state structure to promote incineration. The World Bank funded and advised the Beijing Environmental Sanitation Administration (Beijing's environmental authority in the 1990s) to study solid waste treatment for Beijing. In the study report, *Options for Domestic Solid Waste Treatment in Beijing*, the Beijing Environmental Sanitation Administration outlined future projections for the growth rate of Beijing's garbage, as well as construction plans for five incinerators (Beijing Environmental Sanitation Administration 1996). This report became an important road map guiding Beijing's waste disposal plan for the next 20 years.

Second, the UN and the World Bank's sustainable development agenda affirmed that marketization of public utilities was an inevitable solution for Beijing's environmental degradation. Utilizing the neo-liberal claim that marketization of public utilities (i.e., corporatized SOEs and BOT) could improve efficiency, the World Bank requested the corporatization of certain public utilities of the Beijing Municipal Construction Bureau as a project conditionality (Yue 2000).

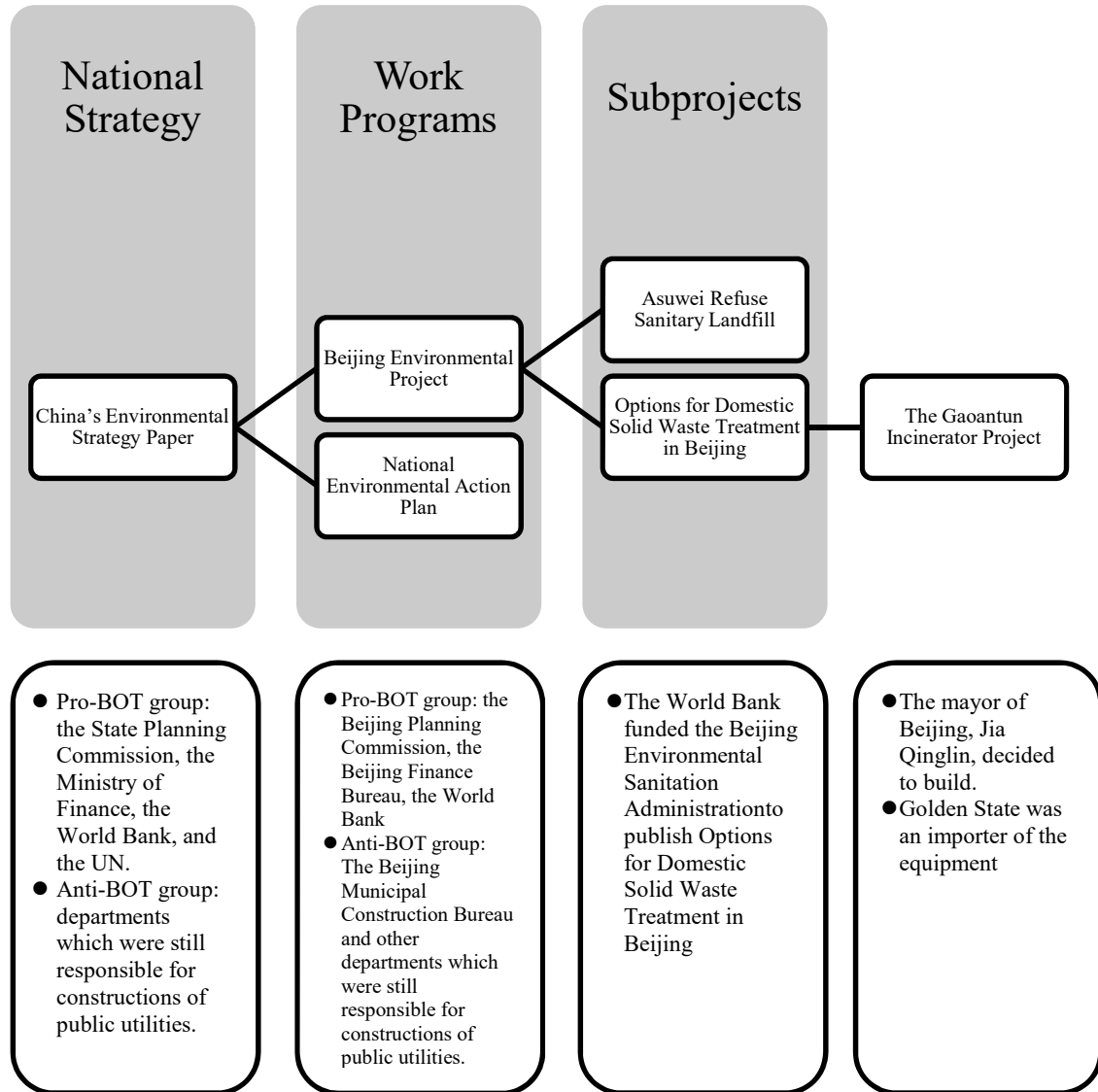
These political-legal arrangements of the Beijing waste management and marketization strategy, in conjunction with the two BOT notices passed by the central government, strongly affected the emergence of Beijing's incineration industry. Using the BOT legal framework, the Beijing government sought investors for environmental projects, including incineration, and thus imported foreign and private investment without World Bank project loans. In 1997, the mayor of Beijing, Jia Qing-lin, decided to build the Gaoantun incinerator. The Bureau of Environmental Health of Beijing's Chaoyang District and Hua Lian Da Clean Energy Technology Ltd. accepted loans from the Spanish government to support their joint investment in the Gaoantun incinerator project (Jia 2005; Xu 2007). The Golden State Environment Group Corporation (Golden State), founded by returning overseas scholar Peter C. Jiang, imported the equipment required for the project in 1997 (Zhang 2010b). Golden State was important because in 2002, it became the largest investor in the Gaoantun incinerator project and was also an important founder of environmental associations in China. Subsequent chapters will further detail the influence of Golden State.

To summarize, this section shows that during the period of the economic growth after 1992, the pro- and anti-reform groups mobilized politically to define their agendas. The pro-reform group succeeded in utilizing the state structures, allied with the MNCs and international institutions, and incorporated with the neo-liberal agenda. As a result, the pro-reform group established a BOT legal framework in the central government and promoted a BOT incinerator in Beijing.

CONCLUSIONS

The analysis here demonstrates that the policy formation process in relation to sustainable development in China supports the organization-political economy perspective. First, the historical variation in the political and economic stability affected the actions of the state and social actors. The Tiananmen Square protests caused a political and economic crisis that most leaders of the Chinese Communist Party decided to repress. While this decision eliminated social discontent and recused the regime, it produced the international isolation and the economic stagnation. There was a debate whether China should continue further the market reforms. Deng Xiao-ping sought to mitigate the conflict between the pro-reform and anti-reform groups by offering a general developmental agenda to ensure the market reform. After China's international isolation faded and economic growth returned in 1993, the anti-reform groups mobilized politically to resist the pro-marketization reform of environmental policy strategy. In contrast, the pro-reform group attempted to deepen the market reform to incorporate environmental policies.

Figure 2.2: The Relationship between the World Bank's Strategy and Incinerator Project



The relationships among the World Bank's national environmental strategy, proposed work programs, and subprojects, which are related to waste treatment in China and Beijing. The shapes in Figure 2.2 with grey background represent the World Bank's projects. The bottom part of the figure is actors related to the strategy, programs, and projects.

Second, changes in the state structures provided opportunities and channels for social actors to affect policies. To meet the demands of the UN and the World Bank, the Chinese government established new organizations within the state structures that allowed the UN and the World Bank to access decision-making processes, monitor project practices, and offer policy suggestions. Although the UN and the World Bank assigned experts to advise China, those experts were not neutral, but rather utilized the enormous aid resources of the UN and the World Bank to promote a comprehensive marketization reform of environmental policy strategy.

Third, corporations could establish organizations to pursue their interests and create political coalitions with other actors to overcome obstacles to their agendas. In the early 1990s, the BCSD composed of MNCs with diverse interests successfully produced a common agenda aligned with the pro-neo-liberal sustainable development of the UN and the World Bank. Moreover, the BCSD attempted to impose this agenda on China to promote marketization reform of the country's environmental policy strategy. Although several state departments in China opposed the reforms, MNCs, the UN, and the World Bank took advantage of their own resources and allied with the pro-reform officials and state departments to provide new agendas. The new agendas generated three sets of policies: (1) clean energy and the upgrading of coal-fired power plants, (2) BOT for foreign investment, and (3) BOT pilot projects. Although the policies did not involve comprehensive reform, they offered political-legal arrangements for the pro-BOT group to promote the following round marketization of public utilities.

Fourth, this chapter depicts the creation of a new market to promote the development of a public utility infrastructure. Inconsistent with neo-liberal claim that marketization was intended to eliminate the government and political intervention in the economy, the creation of this market for a public utility infrastructure resulted from collaboration of international institutions and MNCs with state officials. International institutions, MNCs, and reformist officials did not separate government intervention from the economy, but rather utilized political and economic power to form political-legal arrangements to foster marketization. Moreover, through the BOT legal framework, they attempted to privatize public utilities, establish fee-collecting systems, reform financing rules, and foster a private environmental industry. Because the establishment of these political-legal arrangements required reforms in numerous state departments and naturally attracted resistance from significant beneficiaries of the previous planning economy, the pro-reform group required collaboration between both state and non-state actors. Hence, the pro-reform group sought to embed the marketization of public utility infrastructure within the state, mobilize political factions, and introduce political-legal arrangements.

This chapter also illustrated that the marketization reform of environmental policy strategy between 1989 and 1997 was crucial for the development of the Chinese incineration industry. First, the BOT legal framework created a new market focused on public utility infrastructure. Although the two notices dealt with foreign investment, their implementation legitimized the mobilization of the pro-BOT group to promote further BOT projects, including incinerators.

Second, both the UN's China Agenda 21 and the World Bank's China's Environmental Strategy Paper identified incineration technology as a solution to China's waste and environmental problems. When departments within the Chinese government sought support for waste management projects from the UN and the World Bank, the latter made approval conditional on the introduction of incineration technology. More importantly, because the UN and the World Bank could monitor the projects and train project participants, their perspectives on waste management substantially influenced Chinese officials. Some of these officials would later play important roles in implementing pro-incineration environmental and waste policies.

Third, the BOT projects and diverse associated actors created by the marketization reform led to the rapid development of surrounding industries. After corporations in these industries accumulated resources and experience from project implementation, they attempted to employ these new political-legal arrangements to pursue more BOT projects. Incinerators were important targets. Additionally, many leaders of these corporations had government ties that allowed them to lobby for BOT incinerators.

In brief, the practice of sustainable development in China favored the agenda of international institutions and MNCs while reformists exploited sustainable development to legitimate the marketization reform of environmental policy strategy. Although the World Bank advocated that new projects should incorporate both democratic and environmental standards, including accountability, transparency, and citizen participation, these were overlooked in real project processes in China. The expansion of foreign and private investment in environmental sectors, support for the environmental industry, and importation of new technology became the primary way that the Chinese government, international institutions, and MNCs practiced sustainable development. The practice of sustainable development changed the state structure and produced new actors. The BOT legal framework and BOT pilot projects thus established political-legal arrangements that allowed the private sector to participate in environmental protection and to exercise its power to influence policies. The remaining chapters focus on how new environmental corporations and reformists used these political-legal arrangements to promote new pro-incineration policies.

CHAPTER III

POLICY PERIOD TWO:

URBAN PUBLIC UTILITIES BUILD-OPERATE-TRANSFER POLICY

AND RENEWABLE ENERGY LAW, 1997–2007

INTRODUCTION

In this chapter, I utilize the organizational-political economy perspective to analyze the policy formation processes of two pro-incineration policies from 1997–2007: (1) the “Measures for the Administration on the Franchise of Municipal Public Utilities” (MAFMPU), and (2) the renewable energy law. These two policies extended the marketization of the environmental policy strategy on two specific industries: public utilities and renewable energy.

By 1997, the marketization of the environmental policy strategy provided the political-legal arrangements through which MNCs submitted BOT incinerator projects. However, the Asian financial crisis impacted China’s economic growth¹, leading to the government-driven bailout policies that reinforced the state power and threatened the market reforms.

¹ China nevertheless experienced an economic downturn. Annual Gross Domestic Product (GDP) growth, which held at 9.9% in 1996, fell to 9.2%, 7.8%, and 7.6% in 1997, 1998, and 1999, respectively. The GDP growth rates are gathered from the World Bank website:

<http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?end=2015&locations=CN&start=1961&view=chart>

In response to the threat of the market reform, the pro-reform group mobilized politically to promote the MAFMPU and the renewable energy law. The MFMPU was a nationwide build-operate-transfer (BOT) rule to allow foreign and domestic private investments in urban infrastructure, including the building of incinerators. The renewable energy law stipulated that incinerators could enjoy the state feed-in tariffs. The feed-in tariffs included (1) guaranteed access to the grid; (2) the provision of stable, long-term purchase agreements by grid firms; and (3) payment levels that encouraged the development and utilization of renewable energy.

Using the organizational-political economy perspective, this chapter explores how the threat posed by the Asian economic crisis to economic growth, the changes in the state structures, the political coalition of the Chinese incineration industry, and the neo-liberal agenda contributed to the MAFMPU and the renewable energy law.

THE ASIAN FINANCIAL CRISIS AND THE STATE-DOMINATED AGENDA

To alleviate the impact of the Asian financial crisis, the Chinese government employed an economic stimulus plan to expand domestic demand. From 1998 to 2000, the government issued 360 billion yuan of long-term treasury bonds to fund construction. Ceng Pei-yan, the director of the State Development Planning Commission², announced that the central government would allocate these bonds to support construction projects in

² The State Development Planning Commission's preceding agency was the State Planning Commission. The State Planning Commission was reformed and renamed the State Development Planning Commission in 1998.

several areas, including agriculture, water conservancy, communication, urban utilities, environment, power grids, grain depots, and economic housing (Ceng 2001).

Under the historical condition that the crisis impacted all economic fields, bailout policies gained support from corporations and local governments. Through construction bonds, the central government provided local governments with significant funds to build urban utilities and environmental facilities, while eliminating the need for BOT to attract private investment (Department of Economic Construction of Ministry of Finance 2006; Zhuang 2011). Thus, the construction bonds reduced the number of BOT projects, including BOT incinerators (Zhou 2001; Zhuang 2011). Rather than being disappointed by the decreased number of BOT projects, private corporations supported the construction bonds because local governments awarded urban utility construction contracts to private corporations. The construction bonds thus helped private corporations resolve the profit crises they faced owing to the economic downturn. For example, in the incineration field, Zhejiang province used construction bonds to offer concessional loans to support specific projects. Weiming Environment Protection Co., Ltd. and Hangzhou Jinjing Environment Corporation seized this opportunity to obtain incineration projects (Chen 2003). Mao Dan, a leader of Jinjing, admitted that this allowed Jinjing to transform from a textile and coal-fired energy enterprise with outdated facilities to an incineration company (Interview Mao Dan, June 26, 2016).

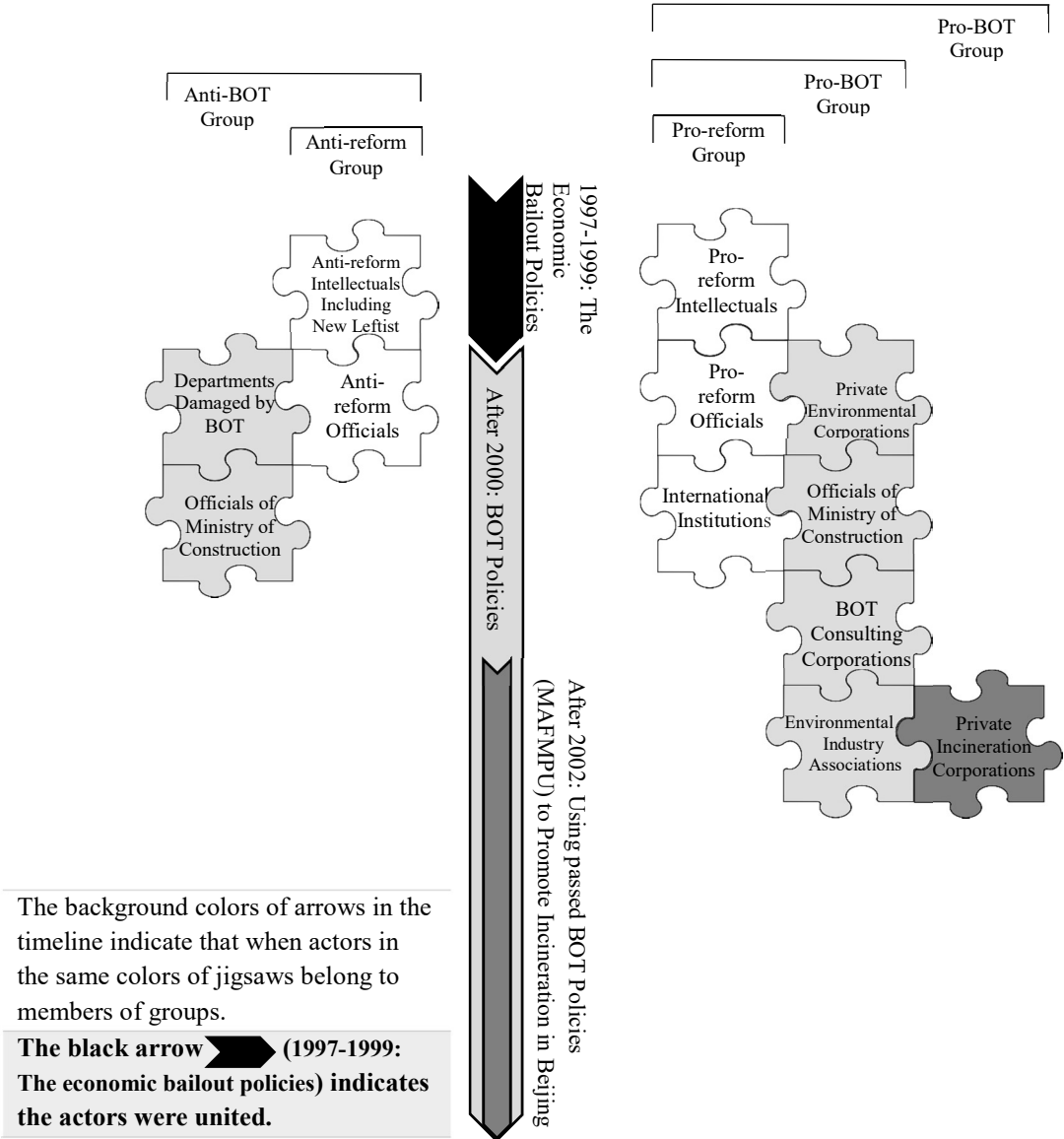
In a separated political area, the Asian financial crisis caused a decline in energy consumption that impacted the revenue of all power plants. Simultaneously, the renewable energy industry, including incineration, experienced a decline in profits. To rescue power

corporations, the Chinese government reversed restrictions on electricity use that had been in place for almost 20 years. In 1998, the State Development Planning Commission announced a new strategy of encouraging electricity use (State Planning Commission 1998). All power corporations then aligned with this new strategy, which eased the problems they faced in terms of declining revenue and excessive market competition.

By 1999, the bailout policies simultaneously averted economic disaster and demonstrated the competence of the Chinese government, leading the anti-reform group to advocate that China extend these policies into a state-dominated developmental agenda (Wang 2004a). Several corporations that benefited from the bailout policies supported this agenda. In response to this proposal, the pro-reform group mobilized politically to reaffirm the market-oriented reform. Conflicts associated with the development of the Chinese incineration industry focused on two crucial policies relevant to BOT policies and the renewable energy industries. These policies were MAFMPU (Figure 3.1 shows social actors and political coalitions related to the MAFMPU) and the renewable energy law (Figure 3.2 shows social actors and political coalitions related to the renewable energy law). In the following sections, I will elaborate the policy formation processes of these two policies.

Figure 3.1: Actors and their Political Coalitions Related to the MAFMPU, 1997–

2007



EFFORTS AT BOT PROMOTION AND THE MAFMPU

In late 1999, the Chinese economy began to display positive signals. Under this historical condition, the pro-BOT group mobilized politically to resist the attempts of the anti-reform group to enlarge the economic stimulus plan. Although the stimulus plan successfully rescued the economy, the pro-BOT group treated bond projects as non-institutional and temporary solutions. The group mobilized politically to promote further market-oriented reform to maintain or expand BOT policies.

Reaffirmation of BOT Policy in Beijing

The pro-BOT group concentrated their political actions in Beijing, where during the implementation of the economic stimulus plan, the anti-BOT group had successfully opposed many BOT projects. Several BOT projects in Beijing met suspension or failure as a result of anti-BOT activism after 1997, with examples including the Gaoantun incinerator (I mentioned this project in Chapter 1), and the Jingtong Expressway (Jin 2003; Xu 2007). In addition, in 1998, because of the economic stimulus plan, the anti-BOT group in Beijing allied with Beijing Waterworks Co. and the Beijing Municipal Construction Bureau to convince the Beijing government to support the Beijing Tenth Waterworks project with state funds.

Conflicts between the pro-BOT and anti-BOT groups emerged from the attempt to transform the Beijing Tenth Waterworks from state-control to a BOT project. At the end of 1999, two historical variations provided opportunities for the pro-BOT group to promote BOT projects. First, the stabilization of economic growth provided a historical condition that encouraged private corporations to pursue their interests. In the public

utilities field, private environmental corporations involved in sewage treatment, incineration, and other environmental business mobilized politically to oppose the bond projects. They promoted sewage facility BOT schemes to justify various other local BOT pilot projects, including those involving incineration projects. For example, Sound Environmental Resources Co. Ltd. (Sound Co.) was a private environmental corporation diversified into various industries, including sewage treatment, incineration, and other environmental business. The chairman of Sound Co., Wen Yi-bo, believed that construction bonds were a temporary policy and inadequate to meet the demand for new infrastructure generated by continued economic growth. In an ambitious gesture, late in 1999, Wen Yi-bo took out a full-page ad in a major Beijing newspaper to advocate the China Blue Water Plan, which posited private sector participation in sewage treatment as the only solution to river pollution (Zhang 2009b). Wen Yi-bo explained that sewage treatment and incineration had a complementary relationship from the perspective of environmental corporations. That is, when environmental corporations successfully promoted BOT policies involving sewage treatment and established political relationships with government leaders, it became easier to promote incineration projects (Yan 2016).

Second, the pro-BOT group aligned itself with China's national agenda of seeking World Trade Organization (WTO) membership in the late 1990s. The WTO's neo-liberal requirements of open markets and privatization legitimized the further reform. As a result, the pro-BOT group advocated for promoting BOT to meet the WTO requirements (Wu and Liu 1999; Li 2003).

Moreover, changes in the state structures provided several channels for private environmental corporations to exercise power. First, some authorities, such as the Beijing Planning Commission and the Beijing Finance Bureau, preferred the marketization environmental strategy because they collaborated with the UN and the World Bank's sustainable development projects in the previous period. Second, leaders of state-owned BOT consulting companies left to launch independent careers in the environmental business. The above state structures were important channels for private environmental corporations to establish political coalitions with officials to access decision-making processes. For example, Jin Yong-xiang was an employee of the BOT analysis team of the Beijing Engineering Consulting Corporation (see Chapter II). He went into business and established the Dayue Consulting Corporation (Dayue) in 1996. Because of Jin Yong-xiang's ties with the Beijing government, in the late 1990s, Dayue became the first external expert advisor in the Beijing public utility projects. Jin Yong-xiang recalls:

To promote BOT projects, Wang Guang-dao convinced the Beijing government to establish the project financing committee and to appoint him as the director of the committee. Then the committee established the bidding office and hired Dayue as a financing and tender advisor to design BOT projects. It was the first time that Beijing government hired an external expert advisor in public utility projects. The Beijing government placed great hopes on "external brain" of us (Jin 2003).

As a result, in 2000, private environmental corporations, including Sound Co. and Dayue, allied with reformist officials to criticize the Beijing Tenth Waterworks project for

inefficiency (Jin 2015b). Although the anti-BOT group fought back (Interview Mai Cheng-feng, July 12, 2016), the pro-BOT group successfully reopened the tender process for the Beijing Tenth Waterworks project in 2000, despite the Beijing Municipal Construction Bureau having won the project with an offer price of 6.9 yuan per ton of water in 1998. When two foreign private water supply corporations offered 1.15 and 1.39 yuan per ton, Wang Guang-dao used these offers as leverage to blame the Beijing Municipal Construction Bureau for excessively high water prices and transformed the Beijing Tenth Waterworks to a BOT model (Jin 2015b).

In other successes for the pro-BOT group, Sound Co. was awarded the Xiaoguhe sewage treatment BOT project in 2001 (Jin 2003), Golden State took over the suspended Gaoantun incineration BOT project in 2002 (Xu 2007; Du, Zhao and Li 2014).

Eventually, the successful reaffirmation of BOT projects in Beijing became a political-legal arrangement by which reformists and private incineration corporations could promote further BOT policies. This became especially prevalent after Wang Guang-dao became the minister of the Ministry of Construction in 2001.

The Policy Formation Process of the MAFMPU in the Central Government

After 2001, there were three important developments that encouraged the pro-BOT group to promote a nationwide BOT law. First, the historical condition of economic growth after 2001 urged the pro-BOT group to pursue their interests. The group expected that China's population growth and urbanization would significantly increase the demand for solid waste treatment facilities (Gu 2001). Second, the pro-BOT group were not satisfied with BOT policies' restoration at local levels. The pro-BOT groups, reformists

and private environmental corporations argued that support for the continuation of BOT projects remained tentative (Jin 2003). Third, the promotion of Wang Guang-dao to the minister of the Ministry of Construction in 2001 became a historical variation in the state structure that allowed the pro-BOT group to access the decision-making processes. In addition, the political coalition established during Wang's Beijing tenure played an important role. Utilizing the above state structure and political coalition, Wang Guang-dao announced a proposal of urban utilities BOT legal framework (Jin 2014). In August 2002, Wang Guang-dao declared that "operations of municipal sewage and waste treatment projects have to follow corporatization and marketization models in order to push industrialization (Wang 2002)." This declaration demonstrated that Wang Guang-dao's policy direction was to utilize the marketization reform (BOT was a primary reform) to promote environmental industries, including the incineration industry, and to deal with urban sewage and waste problems.

However, Wang Guang-dao's efforts were met with opposition, which debated whether BOT can solve the environmental problems. The opposition was derived from two sources: anti-BOT officials in the Chinese government and public opinion.

The Challenge from Anti-BOT Officials and the Changes in the State Structure

Although the minister of the Ministry of Construction, Wang Guang-dao, promoted the BOT legal framework, anti-BOT departments mobilized politically to resist the marketization of the urban utilities. For example, Li Dong-xu, the director of the Ministry of Construction's Urban Construction Department, wrote an article in the

People's Daily. He criticized some conservative departments' resistance on the marketization of the urban utilities. Li Dong-xu argued:

Some departments neglect nation's whole interests... The urban public utility industry doesn't get rid of the planned economy influence. The governmental departments' managerial system does not fit with the requirements of market socialist development, and the administrative controls on enterprise management still exists (Li 2003).

His action revealed that the anti-BOT group's obstacle had an effect and reformists had to disclose the conflict between them in order to put pressure on the anti-BOT group. Besides arguing for the importance of maintaining public departments, anti-BOT groups complained that pro-BOT officials did not have the capacity to draft a working law.

From the perspective of the pro-BOT group, these criticism were partly valid because there was a significant historical variation of the state structures that the administrative reform of 1998 weakened many state departments' capacity. Following the neo-liberal advice from the World Bank that the government should be downsized to limit its intervention in the economy, in 1998, the State Council disbanded 15 departments and dismissed thousands of officials (Luo 1998). The Ministry of Construction, which was responsible for urban planning and solid waste management, employed two administrative reform policies. First, numerous subunits of the Ministry of Construction were merged and corporatized. Second, the Ministry of Construction altered the function of intervention into macro control, and did not focus on policy details (Ye 2000). As a result, when Wang Guang-dao became the minister of the Ministry of Construction in 2001, the weakened

and altered structure of the Ministry of Construction did not have sufficient workforce to adequately investigate the market operation and the capacity to establish an appropriate law for a market economy (Jin and Chang 2004).

In response to the anti-BOT groups' challenge and the weakened capacity of the Ministry of Construction, Wang Guang-dao altered the state structure to establish a channel in the Ministry of Construction for external support. Because of close relationships established during the promotion of BOT projects in Beijing, Wang Guang-dao introduced Dayue to the decision-making processes. Jin Yong-xiang, the general manager of Dayue, recalled why Wang Guang-dao had to find external support:

In the traditional socialist system, the government controlled everything, including industry and projects' planning, design, building, and operations, and supervision of corporations. This system must led to low efficiency of investment and operation.Government agencies also have a limited number of staffs. Moreover, since administrative works are heavy, the utilizing of professional consulting institutions' participation within decision-making and industry-managing processes is capable of enhancing the government's efficiency (Jin, Wu and Ma 2003).

As a result, Wang Guang-dao outsourced the BOT draft to Dayue. This shift in the state structure was crucial because it enabled Dayue to participate in internal decision-making processes of the Ministry of Construction, such as employing BOT survey, negotiating with officials, and drafting out the BOT rules (Jin and Chang 2004).

Public Opinions' Debate on the Marketization and the Emergence of Industry

Associations

In a separate political arena, public opinions that were concerned about further market reforms emerged. After 1997, new leftists became an important member of the anti-reform group. Unlike the anti-reform group in the previous period advocating the Mao era political and economic doctrines, the new leftists used the Western anti-globalization movements' arguments³ to oppose the market reform. The core members of the new leftists were primarily young intellectuals who were familiar with the power of the Internet and media to influence public opinion. As a result, the anti-reform group catalyzed public opinion against the market reform. This was accomplished by utilizing the widespread social discontent of the large scale privatization in the late 1990s. The Ministry of Construction's BOT promotion process caused another wave of outcry from the anti-reform group (Shan 2002).

In response to negative public opinions, the Ministry of Construction aligned with private environmental corporations to produce a counterargument. At the administrative level, private environmental corporations also focused on a sewage treatment' BOT to justify a nationwide BOT legal framework, which would be able to support incineration. For example, Wen Yi-bo placed several related advertisements and contributed several

³ The anti-globalization movements refer to social movements against economic globalization which promoted neo-liberalism, privatization, and business interests (Fernandez 2008).

articles to newspapers between 2001 and 2002 to support the Ministry of Construction's BOT proposals (Lu 2009).

In the early 2000s, the political influences of the private environmental corporations began to change as an industry group and take a step toward economic organization. This step became crucial factors advancing policies. The "h2o-china" website was as an informal environmental industry association and was funded by Golden State. H2o-china was intended as a collective platform for options via which environmental corporations could counter the threat to BOT policy from the construction bonds issued after the Asian financial crisis. Superficially, h2o-china was registered as an industrial news website, but in fact, it performed many functions of an industrial association, such as recruiting members, collecting membership fees, holding conferences, publishing annual industrial reports, and announcing collective statements (H2o-china 2004b; H2o-china n. d.).⁴

⁴ Golden State decided to establish a website instead of a formal industrial association for the following two reasons. First, in the beginning 2000s, the size of urban utilities corporations was too small and inadequate to call on them to organize a formal group and make collective decisions. Second, there were two government-organized environmental industrial associations in the early 2000s: the China Association of Circular Economy and the China Association of Environmental Protection Industry. However, the establishing of an independent industrial association involved political risks for private corporations. As a result, Golden State decided to establish and promote a website to report industrial news and generate more public opinions (Interview Qin Ya-ling, June 17, 2016).

After h2o.china was established, to reinforce the dramatic influence, h2o-china established a political coalition with the Ministry of Construction by following actions. First, h2o-china established a formal “strategic partnership” with the Ministry of Construction and an academic institution, the Department of Environmental Science and Engineering, Tsinghua University (H2o-china 2004c; H2o-china 2004a).

Second, h2o-china hired a Ministry of Construction a retired official, Wang An-pei, as an advisor. H2o-china took advantage of Wang An-pei’s close ties with the Ministry of Construction to gain resources and influence BOT policies (Interview Zhuang Ying-mei, June 21, 2016). A private industrial association⁵ evaluated Wang An-pei’s role in h2o-china: “Due to Wang An-pei’s help, h2o-china participated in the policy reforms regarding urban public utilities and water environment governance. The policies included water price adjustment, investment system, the development of the environmental service industry, and the PPP” (Wang and Feng 2016).

Third, the Ministry of Construction outsourced conferences and specific events’ websites to h2o-china in order to allow the latter to receive more revenue (H2o-china 2002; H2o-china 2004c). For example, the Ministry of Construction supported h2o-china to sponsor the “Technical Seminar of National Treatment of Municipal Sewage” in Beijing in 2002 (H2o-china 2002).

⁵ Z-Park Non-governmental Science technology Entrepreneurs Association. This association was the high-technological industrial organizations which pursued industry’s interests.

Fourth, h2o-china generated public opinions which garnered support for the Ministry of Construction leaders' marketization policies of urban utilities. Wang An-pei suggested that after h2o-china.com was established, it played a major role in its impact on public opinion and the theoretical support for the reformists among the state managers (Interview Wang An-pei, June 29, 2016). Zhu Guo-an, who was a leader of h2o-china, said that, "the reformists we wanted to support were Wang Guang-dao and his colleagues in the Ministry of Construction" (Interview Zhu Guo-an, June 30, 2016). Since its establishment in 2000, h2o-china has published several convincing articles supporting the marketization of sewage treatment and urban utilities, as well as hosting academic conferences and industrial forums where professors, officials, and industrial leaders could voice similar support (H2o-china 2002; H2o-china 2004c).

In sum, as an informal industry association, h2o-china fulfilled the importance of an economic organization. First, h2o-china provided a vehicle for the industry to voice common opinions, helping to mitigate internal conflicts and providing a general industrial agenda. For example, h2o-china held an industrial forum once or twice each year to discuss policies, with the conclusions of these forums being published as an industry consensus and potential reference for policy makers. Second, h2o-china facilitated the establishment of a political coalition with crucial actors outside the industry, including professors and officials. Such political coalition was important because it utilized the state structures to obtain resources for industry associations and provided support for pro-BOT officials during policy formation processes.

The MAFMPU and the Beijing BOT Legal Framework

According to the analysis in the previous section, altered state structures and political coalitions allowed private corporations to access the decision-making processes, and to establish collaboration between private corporations and leaders in the Ministry of Construction. This resulted in the December 2002, the Ministry of Construction “Opinion for Increase in Marketization Processes of Municipal Public Utilities (OIMP).” In order to accelerate the legislation, the Ministry of Construction utilized the same state structure to authorize Dayue to employ BOT project investigation research, and allowed Dayue to participate in the MAFMPU’s drafting process (Jin and Chang 2004). With the help from Dayue, in March 2004, the MAFMPU was announced.

Beijing BOT Legal Framework and BOT Practices of Incinerators

The passing of the OIMP was a historical variation that provided a political-legal arrangement for the pro-BOT group at local levels to promote local BOT rules and a variety of BOT facility projects, which included incinerators. In Beijing, there were two other catalysts for the city of Beijing to construct more BOT projects. First, after Wang Guang-dao, the primary BOT advocacy leader in Beijing, was promoted to the Ministry of Construction in 2001, the Sound Co.’s Xiaoguhe sewage treatment facility became a catalyst for the city of Beijing to construct more BOT projects.⁶ Second, because the city

⁶ Since the Xiaoguhe project, the Beijing government created another eight sewage treatment BOT projects from 2000-2003 (H2o-china 2004a; Yang 2012). They were Beijing Economic Technological Development

of Beijing won its bid for hosting the 2008 Olympic Games in 2001, the demand for a large amount of Olympic venues prompted the Beijing government to create additional BOT projects. As a result, the large demands of new BOT projects created the necessity for BOT laws, policies, and rules to attract more private investment targeting various BOT projects (Zhou 2010).

After the Ministry of Construction passed the OIMP in 2002, the pro-BOT group requested that the Beijing government followed the central government's opinion and fulfilled local BOT laws. In 2003, the Beijing government announced two crucial BOT rules. The first was "The Opinion for Deepening Municipal Infrastructure Facility's Investment and Financing System Reform." This opinion explicitly stipulated that the city of Beijing would use PPP and BOT to attract private investment to urban infrastructures. The second was "The Measures for the Franchising Operation of Urban Infrastructures of Beijing Municipality." These measures offered explicit steps for authorities to implement BOT projects and stipulated the scope of various urban infrastructures authorized to use BOT, including that of solid waste facilities (Zhou and Xu 2008; Zhou 2010; Yang 2012). The new rules provided an incentive for the Beijing government to utilize BOT to build infrastructures.

As a result, the effort to promote BOT urban utilities altered the Beijing municipal solid waste treatment policy, which created even more incineration facilities. In the same

Zone (2000), Tongzhou (2002), Lugouqiao (2003), Beiyuan (2003), Dingfuzhuang (2003), Fatou (2003), and Wulituo (2003).

year of passing these two BOT rules, the Beijing government announced an urban solid waste treatment document: the “White Paper of Beijing Household Waste Governance” in 2003. To meet the requirements of a green Olympics, the white paper claimed to complete fifteen new urban solid waste facilities, along with three new incinerators. Because the BOT rules inspired the Beijing government’s confidence in building more urban utilities, the white paper emphasized that building solid waste facilities would utilize BOT to meet the construction requirements.

Sound Co. reaped substantial benefits due to their active mobilization in the Beijing BOT and waste policies. The Beijing government announced the construction of two new incineration projects with BOT in Asuwei and Liulitun in 2005. Sound Co. collaborated with a local Beijing SOE, Beijing Fourth Environment Sanitation Group Co. Ltd., which won the bid for the Asuwei incinerator (Zhou and Xu 2008). The Beijing Green Energy Environment Co., another local SOE of Beijing city, received approval for the project of the Liulitun incinerator.⁷

In 2007, the Beijing government announced another important urban solid waste treatment document: “Beijing Municipal Solid Waste Treatment Facility Construction Implementation Plan in the 11th Five-Year Plan (Beijing Municipal Solid Waste Treatment in the 11th Five-Year Plan).” The efforts of the pro-BOT group finally expanded the

⁷ I will describe the reason why the Asuwei and Liulitun incineration projects’ investors were not all private incineration corporations, but rather included two local Beijing SOEs (Beijing Fourth Environment Sanitation Group Co. Ltd. and Beijing Green Energy Environment Co.) in Chapter IV.

Beijing incineration market. The plan extended the white paper and specified, in 2010, an increase in the rate of incineration to treat solid waste from less than 10% to 40%, as well as the completion of four scheduled incinerators. Besides Liulitun, Gaoantun, and Asuwei, the Beijing government decided to construct the Nangong incinerator (Beijing Municipal Committee of the City 2007).

Further Developments

The success of the MAFMPU encouraged Wang Guan-dao and the private environmental corporations to use existing policies to further legitimize other policies, which further allowed for diverse actors to influence solid waste policies and expand the incineration industry within the next period. This occurred in several ways.

First, the Ministry of Construction established formal committees of experts, which then recruited external experts' participation in the decision-making processes. This change in the state structure allowed more social actors to influence incineration policies. After the market reform of 1979, the Chinese government established expert committees and research institutions in several departments to recruit external scholars and specialists who had been persecuted during the Great Cultural Revolution (Cheng and White 1990; Zang 1999; Zou 2004). These recruits formed committees of experts and research institutions⁸ that superficially could access decision-making processes. However, unlike

⁸ Committees of experts recruited external academic scholars and specialists to consult and garner their opinions. Research institutions were internal units within departments and they recruited highly-educated personnel to conduct surveys and offer appropriate policy suggestions (Zou 2004).

experts from international institutions who possessed significant resources and technology, throughout the 1980s and 1990s these domestic experts remained subordinate to departments and reliant on departmental resources. Therefore, these experts merely acted as consultants who provided a rubber stamp (He 2008; Cao 2013).

As previously described, the expansion of the administrative reforms in 1998 was crucial changes in the state structures that coincided with the administrative experiencing shrinkage and capacity decline. As a result, it was difficult for the state agencies to keep up with the rapidly changing market. Some departments, such as the Ministry of Construction, had to recruit external specialists to conduct market surveys and draft pragmatic and appropriate policies.

Although Dayue's help allowed the Ministry of Construction to fulfill the MAFMPU, the help was only temporary because it relied on the political coalition of Dayue and Wang Guang-dao. To establish a political-legal arrangement to allow external specialists to access decision-making processes, the Ministry of Construction declared in January 2003, "the Key Points for the Work of Science and Technology of Department of the Ministry of Construction in 2003" (Ministry of Construction 2003b). The Ministry of Construction decided:

In order to offer decision-consulting service for industrial development, the Ministry of Construction will give full play to experts' effects, raise the scientification of decision-making and the competence of administration by law, formulate administrative regulations and rules, and establish the Ministry of

Construction's committees of experts according to the key industries, specific works, and demands (Ministry of Construction 2003b).

This general declaration offered a legal basis for stipulating various experts' role in the decision-making processes within specific administrative fields, which also included incineration. In March 2003, the Ministry of Construction announced the "Administrative Rule of Committees of Experts of Ministry of Construction," which formally introduced experts into the realm of decision-making processes (Ministry of Construction 2003a). The rule stipulated that experts were able to participate in policy-making processes, draft general strategic plans, investigate projects, and undertake projects related to the Ministry of Construction commission (Ministry of Construction 2003a). In other words, experts were responsible for diverse policies; those which were relevant to the development of the incineration industry such as urban utilities politics' demonstration, solid waste management strategy plans, and research surveys.

Two committees of experts in the Ministry of Construction were relevant to the incineration development: The Committee of Experts of Urban Public Utilities Sector and the Committee of Experts of Sustainable Development and Resource Environment. Many pro-incineration scholars and incineration corporation leaders were recruited as experts of the two committees by the Ministry of Construction.

Second, the success of h2o-china in guiding generate public opinion and establishing a political coalition to promote the MAFMPU inspired private environmental corporations to advance their organizational capacity to build strong political coalitions. They then established two important organizations.

The first organization was solidwaste-china website⁹, which was established by Golden State in 2005. Besides the website operation and recruitment of members, solidwaste-china held the “Solid Waste Advanced Salons”, which invited officials, incineration corporation leaders, international institution staffs, and academic professors to provide policy suggestions (Li 2005). The Solid Waste Advanced Salons were held once or even several times per year, and developed into an important platform or forum for corporations, professors, and officials to discuss current problems and general issues.

Moreover, the change in the state structure provided a channel for solidwaste-china to access decision-making processes. The two new committees of experts in the Ministry of Construction recruited participants of the Solid Waste Advanced Salons.¹⁰ In this way, the Ministry of Construction and solidwaste-china were mutual beneficial. The Ministry of Construction recruited the experts who had close association with the industry and were able to formulate appropriate policies. Solidwaste-china was able to learn policy tendencies and provide significant influence on policies through these experts (Interview Qin Ya-ling, June 17, 2016). In addition, the change in the state structures that allowed solidwaste-china to access decision-making processes also occurred at the local level. The

⁹ Solidwaste-china’s domain name is <http://solidwaste.com.cn/>.

¹⁰ Nie Yong-feng, Xu Sen-long, and Xu Hai-yun were famous pro-incineration experts on the committees. Nie Yong-feng was a professor of the Department of Environmental Science and Engineering, Tsinghua University. Xu Sen-long and Xu Hai-yun were staff members of the China Urban Construction Design & Research Institute Co. Ltd., which was corporatized from the Ministry of Construction’s departments. They were ‘Solid Waste Advanced Salons’ active participants.

members of the urban sanitation committee of the Beijing Municipal Committee and the Solid Waste Advanced Salons were also overlapped. Thus, one-half of the experts had close relationships with solidwaste-china. The urban sanitation committee had eight members. Four members, Wang Qi, Li Guo-xue, Xu Wen-long, and Fang Jian-hua, were pro-incineration experts who had a close relationship with solidwaste-china.

The second organization was a formal industrial association: the China Environment Chamber of Commerce (China Environment Chamber). Based on the experience of h2o-china and solidwaste-china, active participants in these two organizations concluded to create the China Environment Chamber. Zhuang Ying-mei, a leader of the China Environment Chamber, observed that, “Wen Yi-bo realized that even though the using of personal relationships and informal ties to influence policies could benefit Sound Co.’s interests, there was a limitation. In contrast, a formal institution of an industry can pursue industrial interests and expanding the market to benefit Sound Co.’s interests” (Interview Zhuang Ying-mei, June 21, 2016). As a result, Golden State, Sound Co., and Wang An-pei established the China Environment Chamber in 2007. The China Environment Chamber was a formal industry association, which was registered with the Ministry of Civil Affairs. The members of the association generally consisted of corporations involved with sewage treatment, solid waste, and air pollution protection (China Environment Chamber of Commerce n. d.), and Wen Yi-bo was elected as the first president of the China Environment Chamber.

Because the formal committees of experts and the China Environment Chamber were both established around 2007, they played a crucial role in the successful

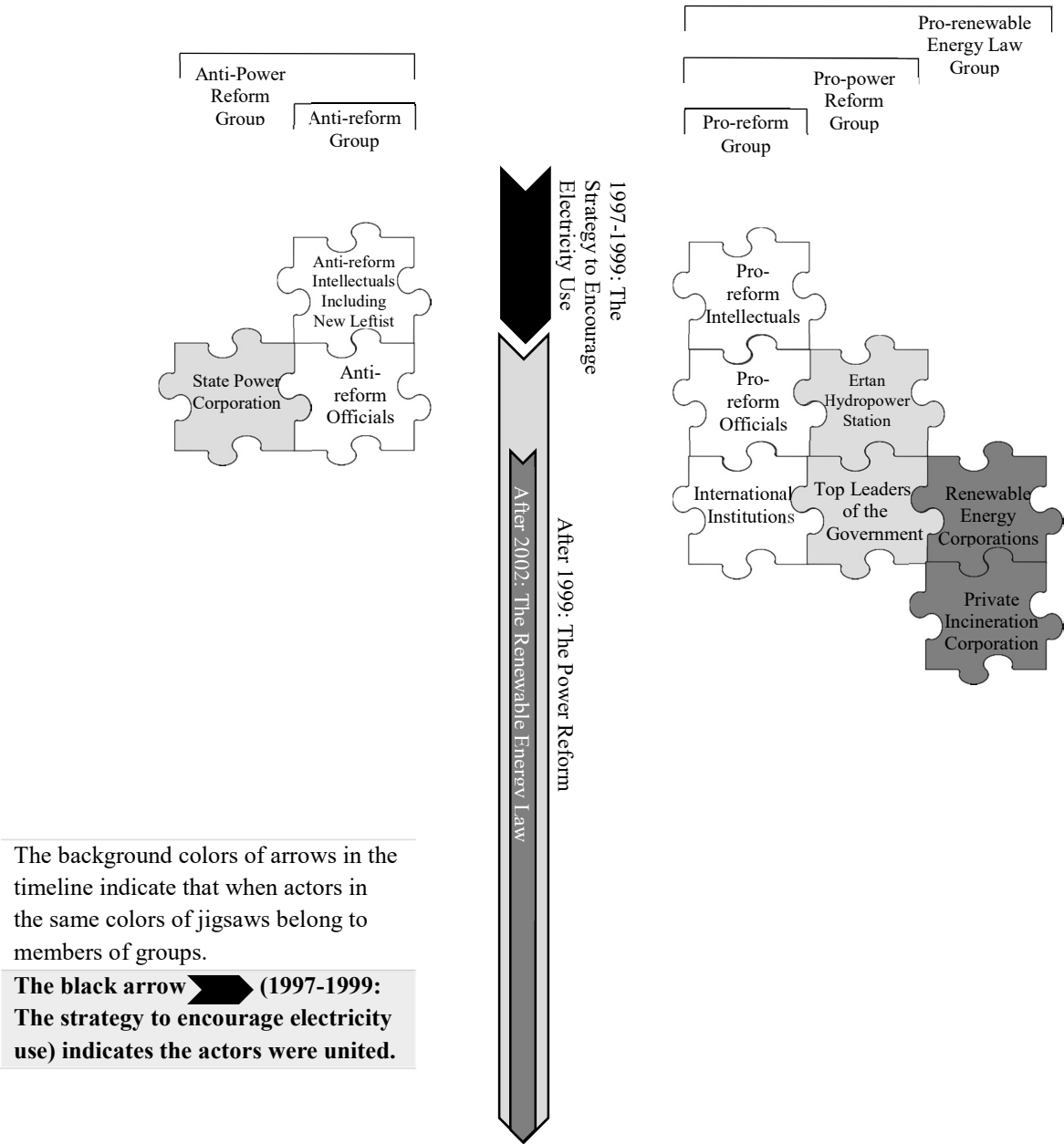
development and expansion of the Chinese incineration industry after 2007. Therefore, I will elaborate on their roles in the next chapter.

THE RENEWABLE ENERGY LAW

In a separate political arena, during the Asian financial crisis, the state's new energy agenda (i.e., the strategy to encourage electricity use) alleviated internal conflicts among power plants. The Chinese government announced a set of policies to reduce electricity prices and stimulate power consumption (State Planning Commission 1998), and the implementation of this agenda rescued power corporations from disaster. However, the new energy agenda did not change the state structure by which the State Power Corporation monopolized this market. The State Power Corporation continued to prioritize the purchase of electricity from its own plants (Wang 2007; Sang and Zhang 2011).

By early 1999, the strategy to encourage electricity use had been implemented for months. Under historical condition that the new strategy rescued the power market, IPPs, mainly represented by the renewable energy industry, realized that their revenue had remained static. Consequently, these IPPs mobilized politically to redefine a new energy agenda, and these mobilization efforts intensified after the economy recovered in 2000. The subsequent section will describe how this conflict encouraged both the renewable energy industry and reformists to change the state structures and how the alliance towards this end contributed to the renewable energy law, which benefited the development of the incineration industry.

Figure 3.2: Actors and their Political Coalitions Related to the Renewable Energy Law, 1997–2007



The Ertan Event

Conflict between the State Power Corporation and the renewable energy industry emerged from the Ertan Event in 1999: the Ertan Hydropower Station was notable for having experienced a continuous financial deficit since the Asian financial crisis. Construction of the Ertan Hydropower Station had commenced in 1991 and reached completion in 1998, being supported by US\$930 million loan from the World Bank. During the construction of the Ertan Hydropower Station project, the Chinese government was confident that the plant would solve the problem of electricity shortages by providing cheap, abundant, and clean power (Wen 2012). However, just as the plant reached completion in 1998, the Asian financial crisis produced an economic downturn and associated decline in power consumption. In response, Ertan Hydropower Station mobilized politically and aligned with the strategy of encouraging electricity use. Consequently, in 1998, Sichuan Provincial Government followed the new energy strategy to pass a new power price reduction rule to mitigate the financial deficit of the Ertan Hydropower Station (Wang 2013).

However, the State Power Corporation limited its electricity purchases to generation from its own power plants' electricity, leaving 40% of the capacity of the Ertan Hydropower Station idle. As a result, from the perspective of the leaders of the Ertan Hydropower Station, although the power industry generally stabilized after the implementation of the strategy of encouraging electricity use in early 1999, the station still faced a serious decline in electricity sales. The Ertan Hydropower Station therefore faced

a significant deficit and was under pressure to repay loans from the World Bank (Hu 2000; Wen 2012; Liu 2015).

In response to the deficit, the Ertan Hydropower Development Corporation mobilized politically to redefine a new energy agenda. The Ertan Hydropower Development Corporation utilized the state structures to influence the state-controlling media and top leaders of the Chinese Communist Party (Wang 2004b; Liu 2015). In response to this mobilization, Chinese president Jiang Ze-min inspected the Ertan Hydropower Station in April 1999. Jiang Ze-min strongly criticized the State Power Corporation and asked the State Development Planning Commission to solve the feed-in problem surrounding Ertan's power generation and immediately reform the electric power system. Reformist officials immediately acted to take advantage of Jiang Ze-min's order, and in June 1999, Zhu Rong-ji presented a proposal on the electric power system reform. Using the neo-liberal claim that state monopolization of the power market produced inefficiency, the proposal promoted a pro-marketization energy agenda to split the State Power Corporation into separate companies responsible for power generation and power distribution (Hu 2000; Wen 2012; Liu 2015). In this way, the Ertan Hydropower Development Corporation established a political coalition involving senior leaders and reformist groups dissatisfied with the monopoly of the State Power Corporation.

The State Power Corporation also used its alliance with the top leaders to oppose the reform. In the historical condition that the political coalition of the Ertan Hydropower Development Corporation and reformist officials benefitted from both state structures and legitimacy drawn from neo-liberalism, the State Power Corporation failed. In 2001, State

Power Corporation president Gao Yan, who adamantly opposed the reform, was named as a suspect in a corruption case and impeached under the “double designation (shuanggui)” procedure.¹¹ Later, in 2001, he would abscond abroad (Wang 2004b; Liu 2015). Gao Yan’s “double designation” represented the top leaders of the Chinese Communist Party to punish anti-reform members, while his flight shocked other opponents of the reform. In February 2002, the State Council published “The No. 5 Document on Electric Power System Reform,” which formally implemented the State Power Corporation’s restructure dividing into five power energy companies and one power grid company (Liu 2015).

Changes in the State Structure and the Promotion of the Renewable Energy Law

The dismantlement of the State Power Corporation created a new state structure. This new state structure represented a crucial historical variation that broke the long-term state monopoly over the energy market and eliminated the political power of state-owned power corporations derived from their dominance of the energy supply. Under this historical condition, reformists and renewable energy corporations (including incineration corporations) approached the following issues within the context of the new state structures to define a new energy agenda: the renewable energy law.

¹¹ Double designation means that a member of the Chinese Communist Party is held in detention at a designated time and designated location because of corruption and other violations of discipline. When a member of the Chinese Communist Party is double designation, it shows that his or her political life almost ends (Sapio 2008).

First, after the separation of the State Power Corporation in 2012 which was the major obstacle to promote renewable energy, the renewable energy industries were able to align with the state agenda that promoted renewable energy to reduce China's dependence on foreign sources of energy. For reformist state managers, for example, Wang Guang-hui, an official of the Electric power department of the State Economic and Trade Commission, argued that dismantling the monopoly of the State Power Corporation was a necessary step toward the development of renewable energy (Wang 2000).

Second, China's economy managed to recover from the Asian financial crisis which caused another wave of power shortages in 2012 (He, Zhang and Xiao 2004; Ma 2004b; Wang 2005). The State Power Corporation's inefficiency and monopoly was to blame for restrictions on energy innovation as well as the IPPs' efficient power to feed in (Wang 2005). After the separation of the State Power Corporation, renewable energy was treated as an important option, which was necessary to solve power shortages (He, Zhang and Xiao 2004).

Third, because renewable energy generation was a new technology, its costs were higher than traditional energy methods. One of the most significant support policies for the renewable energy industries was the feed-in tariff, which guaranteed access to the grid and purchased power at inflated prices. However, the previous policies did not stipulate specific purchasing prices nor identified who would be responsible for payment (Wang 2007). A renewable energy facility had to negotiate a contract with the State Power Corporation on a case by case basis (Ma 2004a). However, the State Power Corporation generally took advantage of its market monopoly, in an effort to squeeze down feed-in

tariffs. After the State Power Corporation was divided, renewable energy corporations were well aware that it was time to have a renewed and higher support rule within the legal hierarchy (Chen 2005). As a result, they treated the renewable energy law as a tremendous opportunity to benefit their interests.

In the law-making process, due to the differences in political channels and resources, different renewable energy industries used a wide diversity of strategies to influence the law. When the hydropower industry and the solar industry had stronger collective political actions, the incineration industry association as mentioned previously, was burgeoning; therefore, individual corporations used their personal relationships to influence the law. Because the hydropower industry had a long history and a dedicated department in administration (i.e., the Ministry of Water Resources), it possessed numerous channels to mobilize pro-hydropower officials to change the draft. For example, large-scale hydropower was not be listed in the initial draft of the renewable energy law. The hydropower industry allied with Chen Wang-xiang, a veteran of the Ministry of Water Resources and an important planner of the electric power system reform, to change the policy. As a result, the newly passed renewable energy law stipulated that large-scale hydropower was renewable energy and enjoyed subsidies.

The solar industry utilized the position of Himin Solar Group's chairman Huang Ming, a National People's Congress's delegate, to advance its interests. Huang Ming united other delegates to issue another version of the draft of the renewable energy law in 2003. The feed-in and cost-sharing clauses of the draft became the most important

incentive in the law being passed for the renewable energy industries (Zhao and Zhang 2005; Fu 2006).

In the incineration field, according to the National People's Congress's records, incineration was not involved in renewable energy, at least in the draft. Ye Ru-tang, the deputy director of the National People's Congress Environmental and Resources Committee, suggested that incineration should be treated as renewable energy in a subgroup meeting (National People's Congress 2005). Zhuang Ying-mei, who was a leader of the China Environment Chamber and was the general secretary of the National People's Congress's Environmental and Resources Committee in 2005, admitted that an incineration corporation lobbied Ye Ru-tang. Zhuang Ying-me recalled that "Ye Ru-tang was familiar with some incineration corporations. I assure that incineration corporations influenced him, but I don't know the exactly corporations." (Interview Zhuang Ying-mei, June 21, 2016). In the end, the renewable energy law stipulated that incineration was renewable energy and thus able to take advantage of subsidies. Zhuang Ying-me said that Ye Ru-tang's support to the incineration industry is a likely reason Ye Ru-tang was hired as an independent director of an incineration corporation after his retirement (Dongjiang Environmental Company 2009).

As a result, the renewable energy law was one of the acts that was passed with lightning speed, the fastest since the PRC was founded in 1949 (Zhao and Zhang 2005). The National People's Congress announced the draft of the renewable energy law in 2003, and the law was passed in 2005. In 2006, another important measure relating to the subsidy of renewable energy was passed. "Trial Measures for the Management of Prices and

Allocation of Costs for Electricity Generated from Renewable Energy (TMMPAC)” stipulated that feed-in tariffs for incineration plants were comprised of a “benchmark feed-in tariff for conventional coal-fired plants in the same province”, as determined by the government authorities from time to time plus a fixed “subsidy premium” of RMB 0.25 per kWh (National Development and Reform Commission 2006). After the TMMPAC was passed, the investment of incinerators began to boom because the feed-in tariff was able to increase the income of incinerators.

CONCLUSIONS

This chapter demonstrates that the organizational-political economy perspective explains the decision-making processes of the MAFMPU and the renewable energy law. Several dimensions of the policy formation processes are explained by the organizational-political economy perspective.

First, the efforts of international institutions to focus on the marketization of environmental policies before the Asian financial crisis provided important political-legal arrangements that supported the power of domestic corporations.

Second, the historical variation in economic performance crucially influenced the political actions of the state and social actors. The Asian financial crisis seriously and negatively affected profits, which led state managers to offer an economic intervention in the form of a stimulus plan. After this stimulus plan rescued the economy, the anti-reform group attempted to enlarge the plan and transform it into state-driven long-term developmental agenda. In response, the pro-reform group mobilized politically in opposition to the anti-reform group.

Third, during the policy formation process of the MAFMPU, through providing long-term treasury bonds to support construction, the Chinese government's bailout in response to the Asian financial crisis threatened BOT practices. In response to this threat, reformists within the government and the burgeoning incineration corporations who benefitted from the BOT legal framework mobilized politically. Although the anti-BOT group resisted and used the negative effects of privatization to attack the reform, China's entry to the WTO and embrace of the neo-liberal development agenda legitimized the reformists and private incineration corporations' actions. As a result, several BOT projects were approved in Beijing and the central government passed the MAFMPU. These developments influenced Beijing's solid waste policies, and facilitated the use of BOT to build more incinerators.

Fourth, the policy formation process of the renewable energy law also demonstrated how historical conditions of the changes in economic performance influenced both state and non-state actors to establish a political coalition, shape the state structures, and align with the neo-liberal agenda to define a new renewable energy law. The Asian financial crisis encouraged the state, the State Power Corporation and the Ertan Hydropower Development Corporation to unite and issue the strategy of encouraging electricity use. However, when the historical condition of the economic downturn reversed, they became divided. The Ertan Hydropower Development Corporation mobilized and allied with reformists, then promoted the neo-liberal agenda to split up the State Power Corporation, fundamentally restructuring the role of the state in relation to the energy industry and energy markets. Renewable energy industries then leveraged this

restructuring to influence decision-making related to renewable energy regulations. Specifically, incineration corporations successfully lobbied the National People's Congress to include incineration technology in the national renewable energy strategy. This caused the incineration market to boom after the renewable energy law classified incineration technology as renewable energy, meaning it was eligible to benefit from the feed-in tariff.

Fifth, this chapter demonstrates that the expansion of the incineration market resulted from efforts of social actors both inside and outside the state. Because political-legal arrangements established in the previous period provided channels to access decision-making processes and benefited private corporations, reformists and private corporations were able to realize the market-led reforms. In fact though, the MAFMPU established a market that was not self-regulating and did not operate according to the private sector rules. The MAFMPU established a BOT legal framework that subsidized the operation of urban utilities by private corporations while making the government legally responsible for ensuring the incomes of those corporations for 20–30 years. The renewable energy law fixed the price of renewable energy. Without pre-existing political-legal arrangements that allowed corporations and reformists to access the state structures and overcome resistance from anti-reform groups, the MAFMPU and the renewable energy law could not have been introduced or enforced, preventing the expansion of the incineration market.

Finally, during this period, private environmental corporations organized politically to advance their agenda. They formed informal associations (e.g., h2o-china,

and solidwaste-china) to influence decision-making processes by using historical personal relationships and the generation of strong public support for their positions. Although initial successes in influencing policies encouraged the continuation of such political coalitions, leaders of environmental corporation realized that limitations of what their personal relationships could achieve. Therefore, they established a formal industry association, the China Environment Chamber, in 2006. Subsequently, the China Environment Chamber, h2o-china.com, and solidwaste-china became the three most important platforms for collecting industry data and influencing policies. These three platforms substantially contributed to many new incineration projects established after 2006.

CHAPTER IV

POLICY PERIOD THREE:

12TH FIVE-YEAR PLAN AND NATIONWIDE FEED-IN TARIFF, 2008–2012

INTRODUCTION

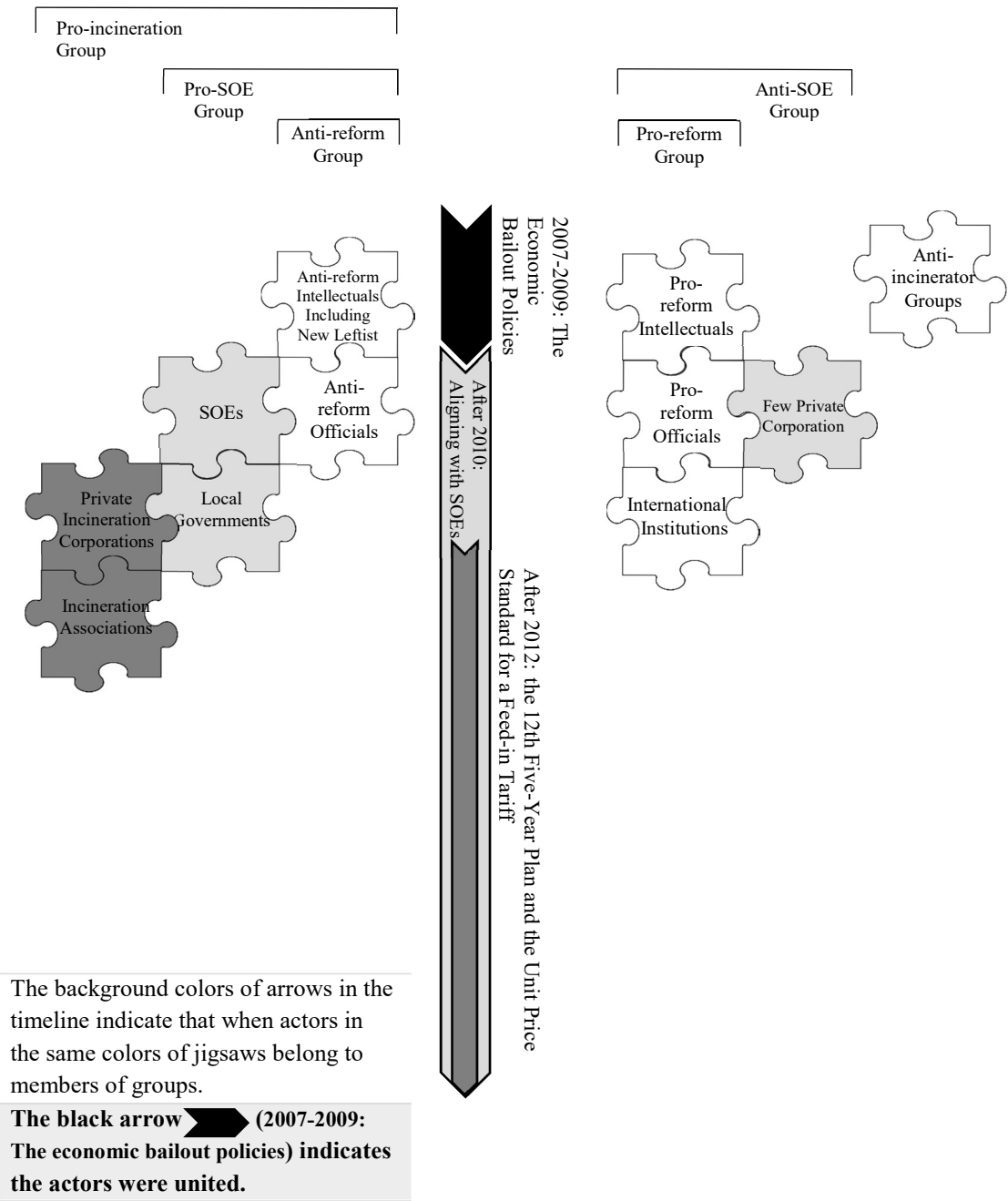
In this chapter, I apply the organization-political economy perspective to analyze two specific policies' formation process related to the rapid growth of incinerators from 2008–2012. These policies were the 12th Five-Year Plan and the unit price standard for a feed-in tariff (Figure 4.1 shows social actors and political coalitions relevant to these two policies see). The perspective presented here also illustrates that changes in economic performance, the ability to access the state structure, and political coalitions constrained environmental authorities' regulation and ENGOs' activities.

By 2007, the marketization of urban utilities and the renewable energy feed-in tariff provided the political-legal frameworks through which incineration corporations promoted incinerator construction and influenced more policies of central and local governments, especially in Beijing. However, the incineration market was impacted by certain deficiencies of these policies and by the outbreak of the global financial crisis in 2007–2008. Corporations and the state initially responded to this threat to the incineration market employing diverse strategies. Eventually though, political mobilization led to their promotion of a common strategy that further expanded the incineration market. Two important policies were passed during this period: (1) the 12th Five-Year Plan set out a new incineration development agenda; (2) a unit price standard was set for a feed-in tariff.

These policies established an environmental consensus between the government and corporations, resulting in numerous incineration contracts, and limiting the capacity of environmental authorities to implement incineration pollution prevention rules.

Moreover, anti-incineration campaigns emerged in response to the potential pollution issues associated with the rapid growth of incinerators. Beijing witnessed several protests against plans for new incinerator plans. Diverse actors, including state managers, incineration corporations, anti-incineration groups, and so on, mobilized politically to shape the solid waste agenda in Beijing. Although these protests successfully suspended certain projects for a few years (Johnson 2010; Johnson 2013b), the pro-incineration groups ultimately prevailed.

Figure 4.1: Actors and their Political Coalitions Related to the Development of the Chinese Incineration Industry, 2008–2012



THE PREVIOUS POLICIES' DEFICIENCIES

In this section, I describe how the deficiencies of previous policies influenced the interests of diverse actors in relation to the incineration industry. During the previous period, the MAFMPU and the renewable energy law provided the incineration industry with political-legal arrangements that supported rapid growth. To promote the implementation of these two measures, the Chinese government subsequently passed several executive orders to promote urban environmental facility markets and stipulate subsidy rules. However, these orders did not equally benefit all incineration corporations and cities, incentivizing diverse actors to promote further changes to incineration policies.

First, although the TMMPAC subsidized electrical power generation by incinerators, this benefit was not extended to all incinerators. For example, because state managers argued that circulating fluidized-bed combustion (CFBC) was co-fired with auxiliary coal, it should be treated as fossil fuel power plants. The TMMPAC excluded CFBC incinerators from any feed-in tariffs (Fan, Shi and Qin 2010).

Second, because the feed-in tariff for coal-fired plants in western China was lower than in eastern China, the adding feed-in tariff price of RMB 0.25 per kWh could not attract investment by incineration corporations to western cities (Li 2011). Therefore, incinerator construction was rare in western China.

Third, the passing of the MAFMPU encouraged many local governments to formulate orders or measures to promote incinerators. Because the MAFMPU was a general policy, local governments had their own diverse interpretations. Incineration corporations faced confusing local government orders and measures regarding the

implementation of incineration, which effectively became an administrative obstacles (Jin 2006).

THE GLOBAL FINANCIAL CRISIS OF 2008 AND THE WANING OF NEO-LIBERALISM

Besides highlighting the insufficiencies of the MAFMPU and the renewable energy law, the global financial crisis of 2008 also produced new problems for the incineration industry. This crisis represented historical variations of economic downturn and waning neo-liberalism that affected the development of the incineration industry. This occurred in several ways.

First, in response to the sudden and negative impact of the crisis¹, the Chinese government offered a four-trillion yuan ² economic stimulus plan focusing on infrastructure investment. Suffering from severe deficit, corporations united to support this plan (Barboza 2008).

Second, similar to the response to the Asian financial crisis of 1997, local governments decreased their investment in new BOT projects as the economic stimulus plan of 2008 provided them with infrastructure funds (H2o-china 2008; Dong 2015). Private incineration corporations thus once again were confronted declines in BOT

¹ According to the World Bank, in 2007, the rate of China's GDP growth was 14.2%, which declined to 9.6% and 9.2% in 2008 and 2009, respectively

(<http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?end=2015&locations=CN&start=1961&view=chart>).

² This was approximately 586 billion U.S. dollars.

projects (Jin 2015b), with the result that the marketization process of urban infrastructure once again became uncertainty. However, the historical variation of neo-liberalism undermined the ability of the pro-reform group to reaffirm the marketization of urban infrastructure agenda.

Because the crisis emerged from the US and Europe, serious doubts grew around the neo-liberal developmental agenda, advocated by developed countries and international institutions. The anti-reform group in China gained broadened political space to criticize the market reforms and privatization initiatives. Certain anti-reform officials and intellectuals became more confident of the capacities of the Chinese state and attempted to offer an alternative state agenda, especially after the stimulus plan proved effective and the Chinese economy recovered from the second quarter of 2009 (Freeman III and Wen 2011). Moreover, the pro-reform group faced difficulty in reaffirming the marketization of urban infrastructure agenda that benefited the interests of private incineration corporations.

Thus, the waning of neo-liberal influence allowed SOEs to invest in public utilities. The global financial crisis influenced all economic spheres, and many corporations, especially SOEs, sought new profitable business ventures. Simultaneously, the contract period for incineration BOT projects normally ranged between 25 to 30 years, allowing an investor to receive stable and long-term income (Li 2012). Consequently, many corporations attempted to invest in municipal solid waste (Jin 2015a), and investment by SOEs significantly influenced the incineration market. The decline in neo-liberal influence legitimated the expansion of SOEs. Thus, after the global financial crisis of 2008, SOEs

used their ties with the government, both formal and informal, to easily overcome administrative obstacles, persuade local governments to restore BOT projects, and receive additional incineration projects. This was especially evident in the first-tier cities³, which were large enough to host local SOEs to monopolize incineration projects. For example, Beijing's new incineration projects were controlled by the Beijing Environment Sanitation Engineering Group. This local SOE were so powerful that central incineration SOEs and private corporations could not invest in the Beijing area. Everbright Environmental Protection Industry Co., Ltd. (Everbright) was the largest central incineration SOEs in China. A leader of Everbright said, "We have employed all our influences, but we cannot enter Beijing" (Interview Wan Jia-min, July 8, 2016). A leader of Sound Co. also complained that private incineration corporations were hardly to obtain new projects in Beijing (Interview Mai Cheng-feng, July 12, 2016).

Third, in the incineration field, a conflict existed between incineration corporations and the Chinese government regarding the TMMPAC, passed in 2006. Because CFBC incineration corporations received no feed-in tariff, they were more heavily impacted by the crisis. Therefore, they mobilized politically to submit their demands to the China Environment Chamber and lobbied the government to relax the feed-in tariff standard of the TMMPAC (China Sciences Group 2009; China Environment Chamber of Commerce 2011). However, because the loopholes of the TMMPAC allowed incinerators to enjoy subsidies for adding coal to further misappropriate subsidies, the National Development

³ The list and definition of the first-tier cities is in Table 4.1.

and Reform Commission⁴ and financial departments that paid excessive subsidies argued that it was necessary to reform the TMMPAC (China Electric Power News 2008).

As a result, although the bailout policy of 2008 produced a historical condition that stabilized the economy, it also produced conflicts of interests between members of the incineration industry (e.g., between SOEs and private incineration corporations, or between CFBC incineration corporations and others). Unlike the previous periods when neo-liberalism was prevalent, during this period private incineration corporations had difficulty creating an agenda that reaffirmed the market-oriented reform. The historical variation of changing neo-liberalism affected private sectors, industry associations, and state managers in their evaluation of the bailout policy and proposal regarding state developmental agendas. In the next two sections, I present how these actors used political coalitions and the state structure to compete with one another in the pursuit of their varied interests.

THE INCINERATION DEVELOPMENT AGENDA

As described in Chapter III, by 2006, the Ministry of Construction and many local governments, including that of Beijing, employed the marketization of urban utilities and prioritized incineration treatment as a solution to urban garbage problems. These political-legal arrangements obviously supported the development of the incineration industry.

⁴ The National Development and Reform Commission's preceding agency was the State Development Planning Commission. The State Development Planning Commission was reformed and renamed the National Development and Reform Commission in 1998.

However, after 2008, there were two historical variation that affected the incineration development. First, the global financial crisis and bailout policies eroded the benefits realized by previous policies, fostering conflicts among private incineration corporations, SOEs, and the state. Second, as the influence of neo-liberalism declined, the anti-reform group gained momentum for its efforts to promote state intervention with the economy to support SOE development. Therefore, it was a historical condition that that bailout policy of 2008 demonstrated the capacity of the state to rescue the economy and support SOEs in promoting a long-term and state-dominated developmental agenda.

The State Structure Exploited by SOE

The China Urban Construction Design & Research Institute Co. Ltd. (Urban Construction Institute) was a SOE that exploited this historical condition and the state structures (specifically its close ties with state departments) to define the long-term agenda for the incineration industry: the urban construction sections of the 12th Five-Year Plan. The Urban Construction Institute was a company responsible for designing urban facilities, and prior to 2000, it was a unit of the Ministry of Construction. In 2000, there was a crucial shift in the state structure that downsized the Ministry of Construction. The State Council announced corporatizing the Urban Construction Institute and other units in the year 2000 (Ministry of Science and Technology 2000).⁵ Since then, the Urban Construction Institute

⁵ Since then, the Urban Construction Institute was established as a company and is under the State-owned Assets Supervision and Administration Commission, which is a department of the State Council that manages all state-owned enterprises.

was established as a company and is under the State-owned Assets Supervision and Administration Commission, which is a department of the State Council that manages all SOEs. This new state structure represented a historical variation that the Urban Construction Institute had incentives and channels to influence policies. First, as a profit-seeking company, the Urban Construction Institute treated incineration designs as an important source of revenue. Generally, the incineration design budget comprised up 3%–5% of the incineration budget, which around US\$80–160 million (Interview Mai Cheng-feng, July 12, 2016). Second, as a SOE, it had close ties with the Ministry of Housing and Urban-Rural Development (Ministry of Housing Development)⁶ and other departments (Interview Shi Zhi-hong, June 17, 2016, Interview Mai Cheng-feng, July 12, 2016).

Furthermore, the waning of the neo-liberal influence after 2008 was an important historical variation that allowed SOEs to influence policies. Contrasting with the weakness of SOEs in industry policy formation processes before 2008, the Urban Construction Institute appeared confident of its ability to define policies. Shi Zhi-hong, the leader of the Urban Construction Institute stated that, “Our business relationship with incineration corporations allowed us to gather comprehensive information concerning the incineration industry. Thus, we have a better understanding of the incineration market than the incineration industry associations” (Interview Shi Zhi-hong, June 17, 2016). The Urban Construction Institute’s ability to access both the market and the government allowed it to

⁶ The Ministry of Housing Development preceding agency was the Ministry of Construction. The Ministry of Construction was reformed and renamed the Ministry of Housing Development in 2008.

win the bid for the urban construction research project, which was part of the 12th Five-Year Plan.

The waning of the neo-liberal influence also represented a historical condition to affect social actors' strategies. During the drafting of the 12th Five-Year Plan, incineration industry associations and private incineration corporations did not promote the agenda of the marketization of urban utilities, but rather aligned with SOEs to develop an industry-wide policy. They attempted to establish a predictable growth rate for incinerators in the 12th Five-Year Plan because the precise growth number was able to demonstrate explicit profit for the financial sector and offer confidence for local governments to create incineration projects. Zhuang Ying-mei, who was a leader of the China Environment Chamber, recalled that "before the 12th Five-Year Plan, we found that banks did not have confidence in the incineration markets. Banks' negative attitude towards incineration was one major obstacle for incineration corporations to get financing for the projects" (Interview Zhuang Ying-mei, June 21, 2016).

The primary obstacle toward establishing a nationwide growth number of incinerators was the local governments' somewhat negative attitude. Because every region had its developmental stage and solid waste amount, several local governments' Five-Year plans did not list incineration technology as a high priority. Moreover, the National Development and Reform Commission had a debate concerning the indicators regarding the growth rate for incinerators in the 12th Five-Year Plan.

Political Coalitions of the Incineration Industry

During this period, incineration industry associations (i.e., China Environment Chamber and E20⁷) represented powerful political coalitions. They played diverse roles in the decision-making process of the 12th Five-Year Plan. First, because of low capability, the National Development and Reform Commission had to locate external support to fulfill plans for specific fields. Ren Xuan-ming, a staff member of the National Development and Reform Commission, admitted this, saying, “Our team had less than 10 staff members. How could we draft the entire nation’s solid waste policies? We had to outsource to an appropriate organization” (Interview Ren Xuan-ming, June 21, 2016).

The China Environment Chamber, E20, and the Urban Construction Institute became National Development and Reform Commission’s important expert sources (Interview Qin Ya-ling, June 17, 2016; Interview Shi Zhi-hong, June 17, 2016; Interview Zhuang Ying-mei, June 21, 2016; Interview Zhu Guo-an, June 30, 2016), and they played various roles in promoting the incineration development in the 12th Five-Year Plan’s agenda.

⁷ For reasons explained below, in this chapter I use the label E20 to refer to h2o-china and solidwaste-china. In 2010, the leaders of h2o-china and solidwaste-china established the Environmental Industry E20 Club, which recruited more than 30 famous environmental corporations as members. E20 became an umbrella name of h2o-china and solidwaste-china. In 2014, the E20 Environmental Platform was established and became the parent company of h2o-china, solidwaste-china, china-daqi.com, E20 Institute of Environment Industry, E20 Club, and E20 Forum. In 2015, the E20 Environmental Platform issued initial public offerings on the National Equities Exchange and Quotations.

Second, China Environment Chamber and E20 became important organizations which played a role in political coalitions. They held several conferences and forums to influence public opinions, as well as affecting officials' attitudes towards incineration.

By using these methods, incineration corporations' agendas competed against the local governments, which had developed a negative attitude towards incineration in the decision-making process of the municipal solid waste part in the 12th Five-Year Plan. Shi Zhi-hong stated that:

I cannot say that the Urban Construction Institute fully determined the municipal solid waste part of the 12th Five-Year Plan. ... When many provinces and cities' Five-Year plans had a high proportion of landfill and compost facilities, I insisted that the landfill and compost solutions did not work well in previous years and China had to increase its incineration (Interview Shi Zhi-hong, June 17, 2016).

Therefore, the final version of the 12th Five-Year Plan reached a compromise. The main text of the plan did not explicate the exact growth rate of incineration, but only stipulated that municipal solid waste's harmless treatment should approach 80%, which included landfill, compost, and incineration. The National Development and Reform Commission allowed the Ministry of Housing Development and the Urban Construction Institute to draw up an annexation plan for the 12th Five-Year Plan in the municipal solid waste field: the "National Municipal Solid Waste Harmless Treatment Facility Construction Proposal of the 12th Five-Year Plan." This proposal also convened the experts of the China Environment Chamber, E20, and the Urban Construction Institute to discuss the draft (Interview Zhuang Ying-mei, June 21, 2016; Interview Zhu Guo-an, June

30, 2016). In 2012, the proposal was announced, and suggested that using incineration technology in municipal solid waste's harmless treatment should reach 35% in the national area and 48% in the eastern area. It was the first time that a Five-Year plan stipulated the proportion of incinerations in the municipal solid waste treatment.

To summarize, the success of the 2008 bailout policy and the waning of neo-liberalism was two historical variation that encouraged the anti-reform group and SOEs to promote a state-dominated agenda. Because administrative reforms in 2000 changed the state structure, the Urban Construction Institute played a dual role in policy making process after 2007: as both an external unit of the government and a profit-seeking company involved in incineration. Through its collaboration with the China Environment Chamber and E20, the Urban Construction Institute became an important channel via which incineration corporations could influence the 12th Five-Year Plan, a decision-making process to which they had previously lacked access.

NATIONWIDE FEED-IN TARIFF

Although the TMMPAC stimulated the dramatic growth of incineration investment after 2006, its deficiencies (i.e., bias against CFBC incinerators and the low feed-in tariff of incinerators in the western area) resulted in the inequitable development of incinerators between various regions in China (China Sciences Group 2009; Li 2011). This situation worsened after the global financial crisis. The crisis was a historical condition that produced price-cutting competition in the incineration industry and conflicts between SOEs and private incineration corporations (Jin 2015a). When the feed-in tariff, the subsidy for renewable energy, was the most important source of income for an

incinerator, a price reform regarding the feed-in tariff was treated as a crucial policy to rectify the market order (Qin 2009). As in the policy formation process relating to national growth in the number of incinerators as set out in the 12th Five-year Plan, private incineration corporations did not promote a new feed-in tariff policy that excluded SOEs. When the historical condition favored the state-dominated agenda, private incineration corporations allied with SOEs to suggest a nationwide feed-in tariff policy.

Reform of the TMMPAC and Conflicts within the National Development and Reform Commission

Prior to the global financial crisis, CFBC incineration corporations voiced discontent with the TMMPAC. The Hangzhou Jin-jiang Group, the largest private incineration corporations, had been developing CFBC technology for many years. The exclusion of CFBC from the feed-in tariff offered an incentive for the Hangzhou Jin-jiang Group and other companies using CFBC to mobilize politically to change the TMMPAC (Qin 2009). For example, Wang Yuan-luo, the Executive Chairman of the Hangzhou Jin-jiang Group, explained that the unfair treatment of CFBC impaired their interests and produced unfair competition. She also started to organize other CFBC companies after the TMMPAC was passed. They suggested that the China Environment Chamber to appeal for a new feed-in tariff rule, and lobbied the central and local administrations (China Sciences Group 2009). They also utilized the state structures to access the decision-making processes. For example, after a few years' effort, in 2009, the Energy Research Institute of the National Development and Reform Commission held a conference inviting CFBC and experts to discuss the TMMPAC reform. The conference reached a consensus

that CFBC incinerators should be granted the feed-in tariff and that the incinerator's subsidy should be calculated by the waste's weight.

However, CFBC corporations' attempt to ease the tariff standard generated internal conflicts for the National Development and Reform Commission. As a department which carried out functions to integrate other departments' opinions and then offer a macro control economic strategy, the National Development and Reform Commission had diverse divisions concerning different economic issues. Few divisions within the National Development and Reform Commission supported incineration subsidies because they are concerned the dramatic increase of garbage in urban areas and the huge investment in incinerators toward pushing economic development (Interview Ren Xuan-ming, June 21, 2016). Because building incinerators constituted substantial investments and involved high technology, these divisions treated the promotion of the incineration industry as a better method by which to grow the economy than other garbage solutions. In general, the construction costs of an incinerator in first-tier cities reached more than US\$80 million. Building an incinerator involved other sectors' compatible development, such as financial credits, material science, prevention of pollution technology, etc. A previous division chief of the National Development and Reform Commission said: "as an authority which is responsible for the macro control of the Chinese economy, we prefer incineration because it is able to drive other sectors' development and promote the whole national economic development. Other garbage solutions do not have a similar effect" (Interview Ren Xuan-ming, June 21, 2016).

However, other divisions of the National Development and Reform Commission believed that incinerators used loopholes in the TMMPAC to misappropriate subsidies. Because China's municipal solid waste did not properly classify the garbage, the result was that there was too much moisture and impurities. To reach the kilocalorie that represented the feed-in tariff standard, grate combustion incinerators also added coal. From these sub-departments' point of view, incinerators using large amounts of coal should be treated as coal-fired plants and could not qualify for the renewable energy subsidies (Qin 2009). If this loophole was not addressed and CFBC eased the TMMPAC successfully, the national financial condition would deteriorate even further. These sub-departments allying with financial departments recommended restricting incinerator subsidies.

Therefore, the split of the National Development and Reform Commission was a state structure that social actors employed their influences on incineration policies. Besides the CFBC incineration corporations, other actors mobilized politically to influence the National Development and Reform Commission's pro-incineration divisions. First, compared with eastern areas, western cities' economic development was slow, and they still confronted a severe problem of garbage growth. When the TMMPAC guided incineration investment towards the eastern areas, western cities urged the central government to find a way to reverse the imbalance (Fan, Shi and Qin 2010; Li 2011). Indeed, after the global financial crisis, the economic stimulus plan allowed western cities to build incinerators. However, because the TMMPAC stipulated that incinerators' feed-in tariff was to add RMB 0.25 per kWh to the feed-in tariff for coal-fired plants, the low

feed-in tariff of coal-fired plants in the western area of China could not support the incinerators' operation. Moreover, few western cities urged an appropriate feed-in tariff for the incineration industry (Fan, Shi and Qin 2010).

Second, when local SOEs dominated the first-tier cities' incineration market, private incineration corporations' development was under threat and they, therefore, attempted to develop new markets. Their targets were second, third, and fourth-tier cities (The classification of the Chinese cities see Table 4.1) (Zhao 2012). As many second, third, and fourth-tier cities concentrated on the western area, and the western city governments became private incineration corporations' allies. Realigning with western city governments, private incinerations were able to advocate for a feed-in tariff reform.

Table 4.1: The Classification of Chinese Cities⁸

	Tier 1	Tier 2	Tier 3	Tier 4
GDP	The cities have a GDP over \$US300 billion	The cities with GDP between US\$68 billion and US\$299 billion	The cities have a GDP between US\$18 billion and US\$67 billion	The cities have a GDP below US\$17 billion
Politics	The cities are directly controlled by central government	The cities consists of provincial capital cities and sub-provincial capital cities	The cities is made up of prefecture capital cities	The rest are county level cities
Population	Cities with more than 15 million people	Cities of 3 to 15 million people	Cities with 150,000 to 3 million people	Cities populated by less than 150,000 people
Average⁹	Beijing, Shanghai, Guangzhou, Chongqing, Tianjin	Shenzhen, Hangzhou and other 28 cities.	Hengyang, Guilin and other 140 cities.	Chengde, Yanan, and other 477 cities.

Source: The South China Morning Post

⁸ There is no an official institution to classify the tier levels of the cities in China. There was a city-tier level report spreading on the Internet and was accepted by many industrial members, officials, and academic professors, which included the pro-incineration group. However, this report did not present sources and only had vague classification regarding the city tier levels. This research uses the reliable data generated by the South China Morning Post's report in 2016: "Urban legend: China's tiered city system explained". (South China Morning Post 2016)

⁹ The South China Morning Post used the three factors (GDP, politics, and population) to define all cities' actual tiers (South China Morning Post 2016).

In 2009, the National Development and Reform Commission revealed the direction of the incineration feed-in tariff reform as a trial balloon. Ding Zong-han, a formal official of the Beijing Municipal Commission of Development and Reform (Beijing Commission of Development and Reform), recalled that, “Every actor reflected that the tariff was not united, then the National Development and Reform Commission responded with a survey” (Interview, Ding Zong-han, June 16, 2016). The National Development and Reform Commission suggested a specific feed-in tariff rule for incinerators and agreed to CFBC incineration corporations’ suggestion that the incinerator’s feed-in tariff should be calculated by the weight of waste. After 2009, the National Development and Reform Commission held several meetings with corporations, industry associations, and experts to reach a consensus.

The TMMPAC Reform, Political Coalitions, and State Structures

During this period, the state structures allowed the China Environment Chamber and E20 to access the decision-making processes. These two organizations designated representatives to participate in the National Development and Reform Commission’s meetings (Interview Qin Ya-ling, June 17, 2016). Moreover, they also established strong political coalitions which collaborated with key actors both inside and outside the incineration industry. They recruited major corporations into their organizations to exhibit their good organizational capabilities. Ding Zong-han recalled his contact with E20 when he was an official of the Beijing Commission of Development and Reform: “We were impressed by their capabilities, especially E20.” He emphasized that “it was a virtuous cycle. E20 could recruit almost all corporations. The government had to participate in their

events because they represented the industry's important actors. When many suggestions of E20 were accepted by the government, more corporations thought that E20 had great influence and wanted to participate" (Interview Ding Zong-han, June 16, 2016).

In 2011, collaborating with E20, the China Environment Chamber submitted "The Advice of Improvement on the Municipal Solid Waste Treatment Industry" to the National Development and Reform Commission and the Ministry of Housing Development. According to this recommendation, the China Environment Chamber suggested a new nationwide feed-in tariff standard along with a subsidy formula. Finally, because anti-incineration feed-in tariff divisions did not oppose this, the National Development and Reform Commission issued "the Policies on Improving Household Waste Incineration Price" which subsidized a fixed on-grid tariff of RMB 0.65 kWh, based on a ratio of 280 kWh of electricity generated for every ton of waste received.

As a result, the new feed-in tariff policy had significant outcomes. CFBC incinerators were finally able to receive the subsidy. Because the new feed-in tariff rule was a nationwide fixed tariff, many second, third, and fourth-tier cities began to establish incineration projects (Zhao 2012) (See Figure 4.2 and 4.3). Although local SOEs occupied almost all the first-tier incineration projects, private incineration corporations were able to garner other cities' projects. Sound Co. leader Mai Cheng-feng said:

The feed-in tariff policy of 2012 was extremely important..... In fact, it means that the incineration energy got the central government's subsidy. If a local government chose landfill, it had to pay 100 yuan per ton. When it used incineration, it only had to pay 60 or 70 yuan per ton, or even lower. Many local

governments would rather choose incinerators now..... In recent years, our (Sound Co.) projects are in second and third-tier cities, or even lower (Interview Mai Cheng-feng, July 12, 2016).

Figure 4.2: The Number of Incinerators in Four Types of Cities in China

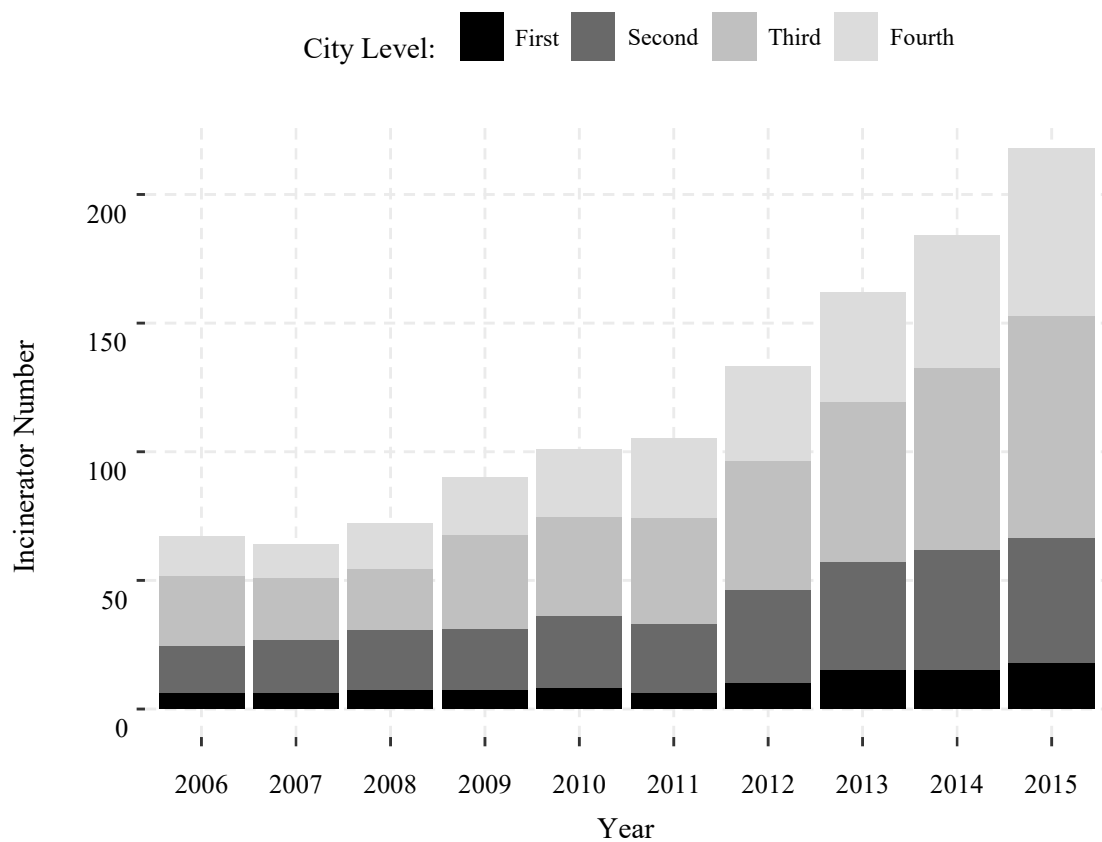
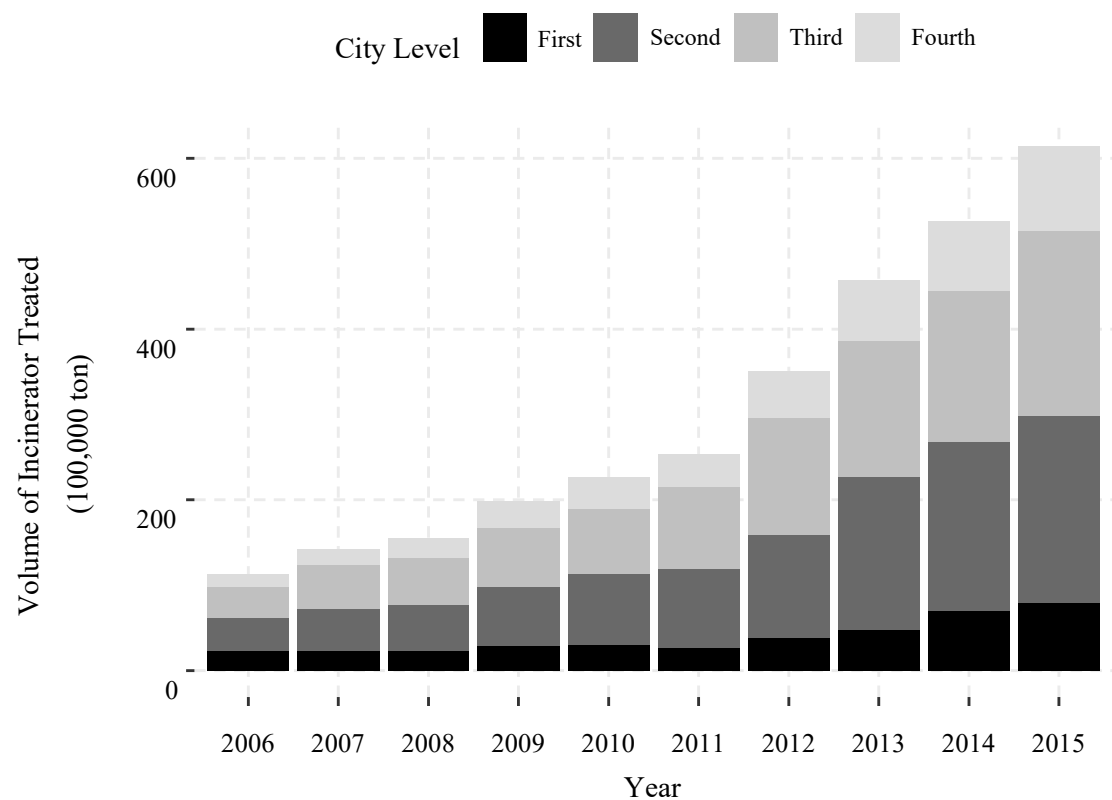


Figure 4.3: Volume of Incinerator Treated in Four Types of Cities in China



Source: China Urban Construction Statistical Yearbook

BEIJING INCINERATION DEVELOPMENT

As described in Chapter III, Beijing Municipal Solid Waste Treatment in the 11th Five-Year Plan in 2007 was an important achievement of the pro-BOT group in Beijing. The plan stated that Beijing's urban solid waste projects would use a BOT framework. During the drafting of the plan, although the BOT policy was assured, debate occurred around whether incineration should be prioritized. Although the final version of the plan

listed specific objectives of the Beijing government regarding incinerator construction, including numbers of incinerators, it also listed potential alternative solutions by supporters of urban waste composting and garbage classification. This compromise showed that the Beijing government could not mediate the conflict between the pro-incineration and anti-incineration groups. Zhuang Ying-mei, who served on the Beijing Commission of Development and Reform during this period, said that compromises were common in policy formation processes in China. Because the Beijing Commission of Development and Reform lacked sufficient personnel, it could not resolve all the conflicts in the available timeframe and so maintained superficial harmony by drafting policies that included suggestions from different actors (Interview Zhuang Ying-mei, June 25, 2016).

As a result, when incineration corporations attempted to enact Beijing Municipal Solid Waste Treatment in the 11th Five-Year Plan after 2007, conflict emerged between the pro- and anti-incineration groups. The relative political influences of the two groups was determined by the historical variation of economic performance and influence of neo-liberalism, and by their ability to access the state structures and establish political coalitions. In subsequent sections, I will detail how the pro-incineration group promoted pro-incineration policies in Beijing and outline the influence of anti-incineration protests.

The Historical Conditions after the Global Financial Crisis

Shortly after the enactment of the Beijing Municipal Solid Waste Treatment in the 11th Five-Year Plan in 2007, Beijing was hit by the global financial crisis in 2008. Under this historical condition that the economy declined, the pro-incineration group confronted two challenges. First, during the crisis, Beijing's implementation of the central

government's four-trillion yuan economic stimulus plan solved the problem of decreasing profits facing private public utility, but eventually led to a decline in BOT projects (Jin 2015a; Jin 2015b).

Second, supporters of urban waste compost and garbage classification continued to mobilize politically. Garbage classification was the most significant threat for the expansion of incineration. Some experts and state managers claimed that incineration technology could only be utilized in a city which established a precise garbage classification system. They argued that if garbage was not well classified, the incomplete combustion of incinerators would produce toxic carcinogens, such as dioxin (Interview Xie Shun-wen, June 15, 2016). Moreover, because one of the important aspects of incinerators' income was derived from garbage disposal fees, which were measured by weight and were paid by the local governments, the classified garbage's reduction in weight negatively impacted incineration corporations' profits. In addition, supporters of garbage classification allied with anti-incinerator protests to shift Beijing's solid waste agenda (the next section will elaborate the policy influence of the anti-incinerator group). .

Because of the historical variation that the influence of neo-liberalism declined after the global financial crisis, the anti-reform group and SOEs enjoyed greater legitimacy and this supported their development. Private incineration corporations in Beijing could not reuse the market-oriented BOT strategy as they had done after the Asian financial crisis to respond to the above challenges. Private incineration corporations abandoned their previous position of promoting BOT under private sector control and instead aligned with SOEs to share BOT incinerator projects. This alliance created new state structures

and political coalitions with other social actors that allowed the pro-incineration group to access Beijing's decision-making processes.

First, although China experienced a dramatic privatization after the market reform, in the early 2000s, most existing SOEs were merged into corporations involving in pillar industries (i.e., defense, aerospace, finance and other industries that the Chinese government classified as strategically important and hence where majority state ownership would be maintained) (Eaton 2013). Several local Beijing SOEs mobilized politically to have the Beijing government change classification rules to allow them pillar industry status. Having successfully maintained their market through this political mobilization, these local Beijing SOEs influenced policies by leveraging their huge resources and formal and informal ties with the Beijing government.

For example, The Beijing government assigned the Beijing Municipal Commission of City Administration and Environment (Beijing Municipal Commission) to take charge of Beijing Municipal Solid Waste Treatment in the 11th Five-Year Plan. Ding Zong-han, a leader of Beijing Huanwei Group, a local SOE responsible for solid waste treatment, was a former official from Beijing Municipal Commission. Ding Zong-han admitted that, "As local state-owned enterprises in Beijing, we naturally enjoy advantages. It's impossible for my rivals to offer proposals more detailed than mine." He continued: "A major reason is that when I can show how you I can establish, construct, design, and operate a project by myself, you can deduce that I must understand the local context, right?" (Interview Ding Zong-han, June 16, 2016) An official who had previously been Ding's subordinate on the Beijing Municipal Commission said that "Ding Zong-han

is the leading expert on Beijing's solid waste issue. We had to consult him when drawing up our solid waste policies" (Interview Li Zhi-wei, June 27, 2016). Therefore, private incineration corporations allying with SOEs to access decision-making processes related to incineration policies.

Furthermore, leaders of incineration corporations, E20, and the China Environment Chamber used existing committees of experts to influence policies (Interview Li Zhi-wei, June 27, 2016; Interview Hu Wei-wen, June 29, 2016; Interview Shi Zhi-hong, June 26, 2016). These state structures became crucial channels for private corporations and SOEs to influence policies.

Second, leveraging the improving access to the state structures obtained through their ties to SOEs, E20 and the China Environment Chamber established a new political coalition with Beijing governmental officials at the grass-roots and top levels. The pro-incineration group successfully allied with Beijing leaders concerned by garbage disposal and urgently seeking a quick-fix solution (Interview Li Zhi-wei, June 27, 2016).

As a result, local government leaders in Beijing and grass-roots state officials favored incineration at expense of other solid waste solutions. The Beijing government consequently provided insufficient funding and human power for the implementation of garbage classification and other solutions, and pro-incineration officials even fiercely resisted such measures. Li Zhi-wei, an official of the Beijing Municipal Commission, admitted that Beijing only implemented garbage classification starting in 2007 due to the upcoming Beijing Olympic Games. After the conclusion of Olympics in 2008, the Beijing neglected garbage classification. Consequently, the implementation of garbage

classification in Beijing was weak, with only 10% of the garbage being classified (Interview Li Zhi-wei, June 27, 2016).

Moreover, the political coalition of private and state-owned incineration corporations had an unintended consequence. Despite the intention of private incineration corporations to share BOT incinerator projects with SOEs, SOEs gained almost incinerator projects. In 2010, the Beijing government announced the Lugushan incineration project operated by Shougang Corporation (a local steel SOE), in lieu of the Liulitun incinerator which was suspended by anti-incinerator protests (Meng 2011). In addition, although private incineration corporations pursued the Nangong incinerator project, there was a rumor that the Beijing government favored Beijing Huanwei Group (Interview Mai Cheng-feng, July 12, 2016). In 2016, as expected by the other incineration corporations, Beijing Huanwei Group was awarded the project. Ding Zong-han, a leader of Beijing Huanwei Group, said:

Our advantage is that we provide comprehensive services in the urban sanitation field, including road cleaning, solid waste transportation, solid waste disposal, equipment production, facility operation, etc. We are ‘a dragon service’.¹⁰

The Beijing government took this into consideration (Interview Ding Zong-han, June 16, 2016).

¹⁰ “A dragon service” means that a company employs a vertical integration strategy which involves linking sectors in the pre-production, production and marketing chains (Waldron, Brown and Longworth 2006).

As a result, private incineration corporations, such as Sound Co., realized that the Beijing incineration market was monopolized by local Beijing SOEs, including Beijing Huanwei Group, Beijing Enterprises Group¹¹, and Shougang Corporation. When other large cities that possessed local SOEs experienced similar problems, private incineration corporations became incentivized to open the second-tier and third-tier cities (this process was described in previous sections).

The Roles of the Beijing Environmental Authority

Throughout the disputes over the urban solid waste agenda after the 1990s, the Beijing Municipal Environmental Protection Bureau (Beijing Environmental Bureau), Beijing's environmental authority, did not withdraw themselves, but rather got further involved in the decision-making process. In general, the Beijing Environmental Bureau played dual and conflicting roles in the urban solid waste agenda. The Beijing Environmental Bureau was responsible for supporting clean and environmental solid waste treatments, and incineration was one of the Beijing Environmental Bureau's options. Yet, the Beijing Environmental Bureau was also in charge of monitoring solid waste facilities' pollution. These institutional arrangements not only urged pro- and anti-incineration groups to influence the Beijing Environmental Bureau's policies, but also resulted in internal conflicts with the Beijing Environmental Bureau. Officials of Beijing Environmental Bureau were divided into two groups. The first group who believed that

¹¹ Beijing Enterprises Group merged with Beijing Green Energy Environment Co. to participate in the incineration business in 2013.

incineration was more environmental than other solid waste treatments, and allied with the pro-incineration group. The second group consisting of a few Beijing Environmental Bureau officials considered incineration's pollution and supported the reinforcement of regulations on incinerators.

Anti-incineration professors and ENGOS aligned with the incineration regulation strategy of the second group to expand their political coalition. In response to anti-incineration professors and ENGOS' actions, the pro-incineration group employed three main strategies. First, the pro-incineration group established a political coalition with Beijing government leaders and SOEs. Because the massive amounts of garbage in Beijing not being properly disposed of affected promotion prospects of government leaders, the pro-incineration group successfully convinced those leaders that incineration technology was the fastest solution to the solid waste problem. As a subordinate unit of the Beijing government, the Beijing Environmental Bureau faced pressure to deal with the concern of leaders regarding emergent garbage problems and ignore the threat of pollution from incinerators (Feng 2007). Moreover, local Beijing SOEs played an important role in promoting incinerators and had various close ties with the Beijing government. Thus, after 2008, the Beijing Environmental Bureau was unable to implement environmental regulations since it would have damaged the interests of the local SOEs (Ma 2014).

Second, the committees of experts of the Beijing Commission of Development and Reform and the Beijing Municipal Commission were important state structures that allowed incineration industry associations and leaders of incineration corporations to influence policies. Because the Beijing Commission of Development and Reform and the

Beijing Municipal Commission determined Beijing's urban waste policies, the Beijing Environmental Bureau's implementation of environmental regulations came under pressure from these two departments. An official of Beijing Environmental Bureau stated that Beijing Environmental Bureau should consider the complete development of Beijing. Because incineration was able to address the current serious environmental crisis at the time – Beijing being besieged by garbage, Beijing Environmental Bureau was responsible for supporting the development of the incineration industry (Interview Xie Shun-wen, June 15, 2016).

Third, the committees of experts of the Beijing Environmental Bureau were also an important state structure for pro-incineration groups to influence policies. Because the administrative reforms slashed personnel numbers, the capacities of the Beijing Environmental Bureau were reduced. Thus, they had to introduce external experts when the Beijing Environmental Bureau decided to promote incinerators. During this time, pro-incineration officials and experts of the Beijing Environmental Bureau played an important role in reducing environmental regulations. For example, land acquisition was constituted one of the primary problems of incineration projects because there was a rule that stipulated that the distance between an incinerator and residential area had to be more than 1000 meters. Getting construction permits approved took incineration corporations a considerable amount of time, especially after the emergence of anti-incinerator groups. In Beijing, to get the Liulitun incinerator project approved, Beijing Environmental Bureau held a "Verification Meeting of Well-known Domestic Experts" to reduce the standard distance between an incinerator and residential area from 1000 to 300 meters. Because the

meeting invited an anti-incineration expert, Xie Shun-wen, his opposition to this change regarding the standard distance left the meeting in an undecided state (Mali 2010). Thus, the Beijing officials and pro-incineration experts lobbied the State Environmental Protection Administration to hold another expert meeting. Finally, State Environmental Protection Administration's meeting with the experts passed the reduced standard distance and the new rule became a national standard. In addition, Beijing Environmental Bureau removed Xie Shun-wen's name from lists of experts (Interview Xie Shun-wen, June 15, 2016).

As a result, the pro-incineration strategy became Beijing Environmental Bureau's policy. Beijing's environmental authority became an active actor to support incinerators. Beijing Environmental Bureau was the first in line to advocate that incinerators were clean and non-polluting, and to claim that the decision-making processes of incinerators were in accordance with legal procedures, including environmental impact assessment processes. The political coalition between leaders of the Beijing government, officials of the Beijing Commission of Development and Reform and the Beijing Municipal Commission, and the incineration industry formed a policy to promote incinerators. This policy offered resources to support the building of incinerators and restricted any obstacles toward the development of the incineration industry within the administration. Although the Beijing government passed numerous environmental regulations on incinerators, they became entangled in a mass of political spin. Tao Qian, a leader of an ENGO, said, "Beijing Environmental Bureau passed these incineration regulations to propagate and persuade us that the anti-incinerator groups and the public should trust clean incinerators

because of Beijing Environmental Bureau's monitoring. However, in reality, Beijing Environmental Bureau never implemented these regulations" (Interview Tao Qian, June 8, 2016).

The current incinerators' operation demonstrated that Beijing Environmental Bureau's passive monitoring created potential pollution threats and incineration corporations did not meet their environmental commitments. Although the Gaoantun incinerator had produced some stinky emissions, Beijing Environmental Bureau did not follow the regulations to disclose the emission data. The residents located near the Gaoantun incinerator engaged in several protests against environmental pollution (Zhang 2009a). Moreover, Beijing Environmental Bureau did not focus on the disposed flying ash which was captured post-combustion from the Gaoantun incinerator. Flying ash contained heavy metals and dioxins which is a toxic carcinogen. According to Beijing's incineration regulations, Beijing Environmental Bureau should strictly monitor the disposed flying ash contaminants. However, when the Gaoantun incinerator produced flying ash at a rate of 12000 tons a year and Beijing's capacity was only 9600 tons per year, Beijing Environmental Bureau did not take any action to prevent this pollution (Ding 2012). Because of cost considerations, the Gaoantun incinerator did not use new disposal technology to reduce the dioxin content in fly ash. Hence, under Beijing Environmental Bureau's weak law enforcement, the Gaoantun incinerator is producing serious pollution, and other building incinerators may well have a similar situation, which will result in an environmental disaster for Beijing at some point in the future (Interview Tao Qian, June 8, 2016).

ANTI-INCINERATOR PROTESTS IN BEIJING

The rapid growth of incinerators stirred public doubts regarding the clean, odorless, and high-tech rhetoric that the government and incineration corporations promoted in relation to incineration. In 2006, nearly 30 years after the start of China's market reforms, urban residents were becoming increasingly concerned with their health and the environmental issues, and moreover had the higher education necessary to locate information regarding incineration projects. Thus, after the announce of Beijing's Liulitun incineration project, China experienced its first anti-incinerator protest (Tian 2008).¹² The Beijing government's plans for Beijing Municipal Solid Waste Treatment in the 11th Five-Year Plan in 2007 included construction of three more incinerators (Gaoantun, Nangong, and Asuwei). In response, opposition campaigns spread from Liulitun to other local communities. These opposition campaigns were important because they succeeded in suspending the Liulitun and Asuwei projects and encouraged residents of other cities where incinerators were planned to take similar measures to protect themselves (Johnson 2013a).

The literature of the citizenship awareness model uses the above cases to conclude that anti-incinerator groups and ENGOs are capable of influencing policy and can obstruct or stop incinerator projects (Johnson 2010; Guo and Chen 2011; Chen 2012; Johnson 2013b). However, evidence reveals only a few cases of successful resistance to proposed

¹² Although the Liulitun protest occurred in 2006, its effects on other dissents and policies occurred after 2008. Therefore, I discussed anti-incinerator protests in this chapter.

incinerators, and many suspended incinerators subsequently resumed construction (Fu 2014; Wang 2015). The citizenship awareness model cannot explain the lack of lasting successes achieved by anti-incinerator protest groups. Focused solely on analyzing ENGOs, and lacking a perspective that considers the roles of the state and other power groups in state agendas, industrial policies, and environmental regulations, the citizenship awareness model cannot fully reflect decision-making processes in China.

This section traces the development of Beijing's anti-incinerator campaign during 2006–2012. During this period, two distinct stages of the anti-incinerator protest activity can be distinguished, respectively occurring before and after the global financial crisis. I demonstrate that the failure of the anti-incinerator protest groups to influence environmental policies resulted from historical variations in economic performance and neo-liberalism and their ability to access the state structures and establish political coalitions. Compared with the pro-incineration group, I elaborate on the weak ability of the anti-incinerator campaigns to access decision-making processes.

Liulitun Anti-Incinerator Protests and the Market Reform

After almost 30 years of market reform, China developed from a state-controlled socialist into an authoritarian state. Although the Chinese government remained its authoritarian control, the market reforms provided a historical condition that political social groups were able to pursue their interests. One kind of social groups were concerned with labor, environmental, and inequality issues. In this historical context, in 2006, the Liulitun anti-incinerator protest emerged when several Liulitun residents noticed that the construction of an incinerator was included in the 11th Five-Year Plan for Haidian District,

an administrative district subordinate to the Beijing government. The Liulitun anti-incinerator protest provided an excellent example of a protest against “locally unwanted land use” (LULU) (Johnson 2010). In such protests, residents concerned with the environmental and public health impacts of current or proposed industrial facilities employ diverse opposition tactics, including lobbying, protests, litigation, etc.

The Liulitun anti-incinerator campaign realized two goals. First, the Liulitun anti-incinerator campaign was successfully postponed the construction of the project. Liulitun residents focused on the environmental impact assessment (EIA) processes (Johnson 2013b; Wang 2015), and found that the Beijing Environmental Bureau had not observed the legal requirement to conduct intensive environmental research and contract a public consultant as part of the EIA process. Using *xinfang* and *shangfang* (letters and visits) to claim infringement upon their rights and a protest outside of the offices of the central environmental authority, the State Environmental Protection Administration (Hou 2007; Wang 2015), the Liulitun anti-incinerator campaign attracted public attention from public opinion and even a response from the State Environmental Protection Administration. Eventually, on June 12th, 2007, the State Environmental Protection Administration announced that in response to the residents’ petition, the Liulitun incinerator should be suspended (Hou 2007; Tian 2008).

Second, the Liulitun anti-incinerator protestors allied with anti-incineration experts and officials to influence Beijing Municipal Solid Waste Treatment in the 11th Five-Year Plan. Using the campaign against the Liulitun incinerator as leverage, anti-incineration experts and officials inserted their agenda into the plan. As I described in the

last section, Beijing Municipal Solid Waste Treatment in the 11th Five-Year Plan was a compromise that tied incineration to other solutions to urban solid waste.

In sum, neo-liberalism and marketization, the core ideas of the reform, were historical conditions that fostered both the expansion of the incineration industry as well as political spaces for other social actors. Shao Fan, an ENGO leader and important organizer of the anti-incinerator protests in Beijing, argued that, “Our political spaces were an outcome of the market reform. Without the reform, we could not get funding from international foundations and so conduct environmental actions” (Interview Shao Fan, June 20, 2016). In the historical conjunction of the economic stability that preceded the global financial crisis, the political coalition opposing of the Liulitun incinerator and anti-incineration experts could mobilize politically to influence policies.

Beijing Anti-incinerator Campaign after the Global Financial Crisis

As I described in the last section, the global financial crisis resulted in the impact of the economic growth and the waning of neo-liberalism. This development was a historical variation to affect the agenda of pro-incineration group which involved SOEs promoting the incineration market. When the pro-incineration group attempted to advance their industry-wide agenda, the Asuwei anti-incinerator protest emerged. In this section, I will elaborate how the historical variation in the economic performance and neo-liberalism affected Asuwei anti-incinerator protest’s actions and ability to influence policies.

The Asuwei anti-incinerator protest emerged in 2009 when the Changqing District government issued its “Announcement on the Beijing Asuwei Incinerator Construction EIA” in July 2009 (Wang 2015). Referring to the experience of the Liulitun campaign,

Asuwei challenged the EIA followed by the Beijing Environmental Bureau, employed radical protests, and established an alliance with anti-incineration experts and officials. In response to the new wave of anti-incinerator protests, the pro-incineration group attacked the campaign as a selfish form of “Not in My Back Yard (NIMBY)” syndrome.

In response to the attack by the pro-incineration group, Asuwei activists collaborated with ENGOs in Beijing which allied with other cities after the Liulitun protest. They formed a study group, which published a report titled, “Chinese City Environment’s Life-or-death Decision: Waste Incineration Policy and Public Intention.” The report suggested alternative treatment options for municipal solid waste and recommended garbage classification and recycling. This marked the first time that ENGOs and grassroots groups attempted to offer a comprehensive waste policy to compete with the agenda of government and incineration corporations (Beijing North Olympic Area Volunteer Study Team 2009).

After several protests and displays of public support, the Beijing government halted the EIA process related to the Asuwei incinerator project in September 2009. The Asuwei residents and ENGOs treated the suspension of the Asuwei incinerator as another victorious anti-incinerator campaign (Johnson 2013b; Wang 2015).

As anti-incinerator campaigns offered an alternative agenda and successfully convinced local governments to suspend numerous projects, a political atmosphere developed in which the central and local governments no longer supported the pro-incineration agenda. However, when economic growth resumed, the pro-incineration group anticipated an expansion of the solid waste market and so worked to redefine the

state agenda to once again support incineration. As described in the previous sections, under the historical condition that the influence of neo-liberalism declined, the pro-incineration group allied with SOEs. Because local Beijing SOEs had diverse ties with the Beijing government, the pro-incineration group established the new state structures to access decision-making processes and political coalitions with key policy makers.

In contrast, with waning of neo-liberalism, the anti-incineration group was unable to access the decision-making processes. First, the ability of anti-incineration actors to form political coalitions declined with the reinforcement of state control over civil society. Local anti-incinerator activists and ENGOs established the “China Zero Waste Alliance” after the successful Asuwei campaign, with the goal of recruiting diverse social actors and sharing relative campaign experiences. Although the China Zero Waste Alliance advocated for its alternative agenda in the public domain, its activities were limited by the Chinese government. Tao Qian observed that in recent years, the Chinese government reinforced restrictions on activities of various groups. The restrictions created difficulties for attempts to organize by individuals whose rights and interests were damaged by local governments or by special interest groups collaborating with government (Interview Tao Qian, June 8, 2016). However, previous chapters have illuminated retired officials going into business and industry associations played a role in gathering information from the market and transmitting the common demands of the industries to the government. They further established relationships between the pro-industrial officials and industries. As a result, under conditions that did not challenge the Chinese Communist Party’s rule, industry associations were able to influence policies.

Therefore, anti-incinerator groups faced challenges in establishing effective political coalitions. With limited resources and political conditions, the China Zero Waste Alliance was unable to establish political-legal arrangements to influence officials and experts. The alliance had to exhibit a collaborative attitude towards the government and avoid radical campaign strategies. Moreover, Tao Qian, a founder of the China Zero Waste Alliance, said that the China Zero Waste Alliance experienced several instances of harassment by unknown state authorities, as well as by the national security department (Interview Tao Qian, June 8, 2016). Tao Qian explained, “In recent years, we have reduced our radical actions in response to state harassment. Without strong protests, it is impossible to challenge solid waste policies” (Interview Tao Qian, June 8, 2016).

Second, compared to the pro-incineration group, which used incineration industry associations and SOEs’ government ties to create new state structures, the anti-incinerator group merely had private and informal relationships with a few Beijing Environmental Bureau officials. Although these informal relationships helped the anti-incinerator group understand regarding the government’s attitude towards solid waste policies, their effect was limited. Such informal relationships did not allow for participation in decision-making processes. Tao Qian said, “Without accessing decision-making processes, the China Zero Waste Alliance faced a challenge in obtaining precise information from departments and then employing a new strategy to protest against pro-incineration policies” (Interview Tao Qian, June 8, 2016).

In contrast, by utilizing various committees of experts, industrial associations, and SOEs, all with substantial ties to the Beijing government, incineration corporations could

establish intensive and extensive relationships with various leaders within the Beijing government. For example, An E20 leader said, “E20’s director and president are experts of the Beijing Commission of Development and Reform and the Beijing Municipal Commission. They represent incineration corporations in dealings with the Beijing government and emphasize the importance of incineration technology” (Interview Qin Yaling, June 17, 2016). These ties were political-legal arrangements embedded within decision-making processes. These political-legal arrangements were vital in framing incineration as the optimal solution and convinced the Beijing government to neglect garbage classification.

Third, anti-incinerator groups failed to identify changes in the influence of neo-liberalism on solid waste policies. After 2008, anti-incinerator groups continued to employ strategies similar to those used before the recommencement of the Asuwei incinerator. Shao Fan stated that, “in my opinion, I think the Chinese Communist Party had abandoned neo-liberalism after 2008..... However, Chinese environmental groups could not reach a consensus. We could not discuss China and the world’s situation. We did not know how the marketization reforms contributed to BOT or how feed-in tariff policies emerged; hence, we could not actually know how the marketization supported the incineration industry. We only focused on a single campaign’s tactics. We rarely discussed a broader political strategy” (Interview Shao Fan, June 20, 2016).

As a result, when the strategies of the anti-incinerator groups met failure after the Asuwei campaign, pro-incineration groups could use diverse political-legal arrangements, which tended to support the reaffirmation of pro-incineration solid waste policies. Thus,

despite the claims of the citizenship awareness model, anti-incinerator campaigns failed to reverse urban solid waste policies, and merely temporarily disrupted incinerator construction. By 2010, following successfully lobbying by the pro-incineration group, the Beijing government announced the continuation of the incineration plans laid out in Beijing Municipal Solid Waste Treatment in the 11th Five-Year Plan. Consequently, design work started on the Nangong incinerator and Shougang Corporation, a steel SOE, was offered the opportunity to construct a new incinerator at Lugushan, in lieu of the suspended Liulitun incineration project. As the Nangong and Lugushan incineration projects were located in rural and poor areas, there emerged a fresh wave of accusations that the anti-incineration campaign did not offer a viable solution to the solid waste problem, but merely produced environmental inequality (Meng 2011). Moreover, in 2013, the Beijing government passed “The Three-year Plan for the Construction of Municipal Solid Waste Treatment Facilities in Beijing”, which announced the number of incinerators in Beijing would increase to 10 (Beijing Municipal Committee of the City 2013). Following this announcement, in 2014, the Beijing government further announced that the Asuwei incineration project would be restarted to deal with serious solid waste problems and the failure of alternative policy solutions such as garbage classification and recycling (Fu 2014).

CONCLUSION

In this chapter, I examined the policy formation processes in the incineration industry after 2008, and the emergence of anti-incinerator campaigns. The results support the organization-political economy perspective in the following ways.

First, in this period, two important policies were passed: the incineration development agenda in the 12th Five-Year Plan and the new nationwide feed-in tariff. Environmental authoritarianism would suggest that the Chinese government determined the policy formation processes. However, I have demonstrated that the global financial crisis impacted profits among SOEs and private corporations. In addition, although the economic stimulus plan averted the economic depression, its tendency to threaten BOT projects created conflict between SOEs and private corporations. Under the historical condition that the neo-liberal ideology was in doubt, private incineration corporations did not reenact privatization policies, but rather aligned with SOEs. Furthermore, newly emerged incineration associations established a political coalition and leveraged their relationships with relevant state officials to protect incineration interests. As a result, these two policies reduced intra-industry conflicts and expanded the incineration market.

Second, the development of incineration in Beijing showed that incineration corporations could leverage state structures and political coalitions to influence policies. Specifically, they successfully constrained the environmental authorities.

Third, using rhetoric that capitalized on the social conflicts and corruption produced by privatization as well as the global financial crisis, the anti-reform group criticized neo-liberalism and the reform. As Polanyi argued (Polanyi 2001[1944]), the crisis triggered certain anti-market social protection measures. SOEs, and most especially local SOEs, enjoyed legitimacy in pursuing the incineration market. “Advance of the state, retreat of the private sector” became an obvious trend, especially in the first-tier cities. However, the expansion of the state control did not have a positive environmental impact.

The Chinese incineration market was reorganized by profit-seeking SOEs and pro-incineration officials, with both groups significantly incentivized to create more incineration projects. Being familiar with the administration, these SOEs could effectively utilize the state structure to realize their goals and in the process constrained environmental regulations. When local SOEs monopolized the incineration market in the first-tier cities, private corporations had a unique incentive to exploit the market in the second and third-tier cities.

Finally, some support exists for the citizenship awareness model, but only in the short-term. The above evidence supports the organizational-political economy perspective to demonstrate that linking state structures and political coalitions affected the success of anti-incinerator campaigns. The campaigns could suspend incinerators through organized protests. However, these campaigns could not challenge the incineration developmental agenda, which was shaped by the pro-incineration group that composed of officials, SOEs, private corporations, and professors.

CHAPTER V

CONCLUSION

Overall, this study supports the organizational-political economy perspective and explains changes in environmental policies that effected the expansion of the Chinese incineration industry from 1989–2012. Central to this perspective is the identification of historical conditions that affect how the state and social actors influence policy. I analyzed the historical processes of the three periods: (1) after the Tiananmen Square protests (1989–1997), (2) after the Asian financial crisis (1997–2007), and (3) after the global financial crisis (2008–2012). The analysis focuses on how the organizational-political economy affected policy formation processes. Specifically, I examine the effects of historical conditions, state structures, political coalitions, and neo-liberal ideology on the policy formation process.

CHANGES IN ENVIRONMENTAL POLICIES IN CHINA

Historical Conditions

This analysis supports the proposition that changes in economic performance created historical conditions that social actors adopt varied strategies to advance their preferred environmental policies. The policy influence of social actors is not static. During crises, when existing environmental policies that support economic growth are clearly unsustainable, corporations align with the bailout agenda of the state. Later, if the bailout agenda cannot solve crises, the state and social actors attempt to provide another general agendas. If the bailout agenda restore economic stability, social actors with diverse interests mobilize politically to define their agendas.

During the Tiananmen Square protests, most leaders of the Chinese Communist Party decided to repress. Although this decision forced the discontented social actors to support the government and recused the regime, it produced other political and economic problems. The international isolation of the People's Republic of China and associated legitimacy crisis caused a debate whether China should continue further the market reforms. Although the pro-reform and anti-reform groups had serious conflicts during the debate, they supported an environmental diplomacy strategy to break out the international isolation. After the market reforms were re-ensured in 1992 and the political and economic crisis was resolved, conflict between the pro-reform and anti-reform groups emerged from the pro-marketization environmental policies promoted by international institutions. Eventually, the pro-reform group released two crucial project documents that promoted the privatization of public utilities under the BOT model "China's Agenda 21," and the "China Environmental Strategy Paper." This BOT policy transformed urban utilities, such as garbage disposal, from state functions into marketplaces with space for economic growth. Private incineration corporations explicitly designed to pursue profit were established in this nascent period.

Moreover, both the Asian financial crisis of 1998 and the global financial crisis of 2008 urged a state-funded stimulus agenda that enjoyed corporate support. When the economy recovered, private corporations pursued their own agendas to expand BOT policies and redefine nationwide feed-in tariff policies. Firstly, during the Asian financial crisis of 1998, extensive corporate losses compelled the central government to fund bailouts through the issue of substantial treasury bonds. These bailouts initially expanded

domestic demand and ensured the survival of numerous corporations. However, the bailouts also threatened to derail privatization projects, including those involving BOT incinerators, causing advocates for the private incineration industry to push for more local BOT pilot projects as well as for central government intervention to mandate BOT at the national level. After the global financial crisis of 2008, those advocates forged new alliances with SOEs to influence the urban construction section of the 12th Five-Year Plan. Such actions helped the private incineration industry deal with financial losses arising from the global crisis.

Secondly, in a separate political arena, under the impacts of the crises mentioned previously, power corporations initially supported the bailout policies intended to solve the problem of power surplus. However, when the bailout policies only benefited the State Power Corporation, reformist officials and the renewable energy industry, chiefly represented by the Ertan Hydropower Development Corporation, cooperated to advance market reform. Specifically, they broke the State Power Corporation into numerous localized power generation and power-grid companies, thus allowing the renewable electricity generators to carve out a market space for themselves and promote the introduction of a new feed-in tariff policy. The renewable energy law that introduced the feed-in tariff policy made garbage incinerators eligible for state subsidies for renewable energy promotion. Later, in response to the global financial crisis of 2008, private incineration corporations and SOEs supported bailout policies. Although bailouts rescued the economy, the primary beneficiaries were SOEs. Consequently, private incineration corporations subsequently allied with SOEs when employing neo-liberal rhetoric proved

inadequate to promote pro-marketization environmental policies. Eventually, the alliance of private incineration corporations and SOEs mobilized politically to revise the feed-in tariff policy and successfully shifted the burden of funding incinerators from local governments to the central government. The “Policies on Improving Household Waste Incineration Prices” issued by the National Development and Reform Commission solidified this gain and ensured the future construction and operation of garbage incinerators.

State Structures

This study demonstrates that variation in state structures affects the ability of social actors to influence environmental policies. The state is an organization with broad and diverse authorities that are influenced by powerful groups in society (Prechel 1990). As argued by Weber in relation to *bureaucratic structures*, fostering market operation creates demands changes in state structures to produce rational and efficient policies. The state extends its authority to encompass more social and economic activities to collect market information, recruit capitalists’ opinions, and finally produce practical and reasonable policy. In this way, changes in the state structures neither exclude the influence on policies of special interest groups nor increase state autonomy. Rather such changes provide powerful social actors with institutional channels to access decision-making processes.

In the case of China, the Chinese government promoted the market economy through numerous waves of administrative reforms. Social actors were able to influence policies throughout the three periods examined in this study largely because the Chinese government was downsized and restructured during the same periods. As described in the

previous chapters, the hallmark policy measure of the market reform was to reduce the workforces, responsibilities, and decision-making capacities of government agencies. The reform shifted responsibilities from these downsized agencies to newly-created SOEs, some of which would eventually be privatized. This process saw a large transfer of government personnel, including senior officials, to the private- or state-owned enterprises. The result was that many managers of corporations or trade associations in the incineration industry came to be former government officials responsible for regulating that industry. With downsized workforces, state agencies faced increasing challenges in information collection, technical expertise, and other capacities necessary to their proper functioning. Industry leaders, who happened to be retired senior officials from these downsized agencies, were perfectly situated to assist their previous employers. In many instances, government agencies created formal institutions (e.g., committees of experts) to recruit industry leaders to help government agencies write policies to benefit their industries.

International institutions (i.e., the UN and the World Bank) also fostered changes in the state structures that favored privatized industries such as the incineration industry, especially during the earlier period examined in this study. To meet requirements imposed by these international institutions for provision of financial and technical assistance, the Chinese government had to create new administrative departments under the tutelage of World Bank and the UN programs. Officials in these new departments then received training and regular policy advice from the international institutions. Projects needing high capital and technical input, such as incinerators constructed in the earlier decades of reform, were especially prone to such influence. This was how the first BOT policy

directives and pilot projects were passed in 1995, and how the first Beijing incineration project, the Gaoantun incinerator, was built in 1997.

Political Coalitions

This study further demonstrates that diverse organizational-political coalitions mobilize different actors and engage in political actions to influence policies. The issue of political coalitions is important because it relates to the ability of social actors to collaborate with other actors to pursue common interests. Industry political coalitions can be established through the efforts of diverse organizations to utilize resources and employ collect activities. Powerful organizations (e.g., international institutions, MNCs, or big businesses) can utilize resources to establish alliances with other actors. Cross-firm organizations (e.g., industrial associations) provide corporations and other social actors with diverse collective activities that can be used for conflict mitigation.

In 1989–1997, MNCs and international institutions created the incineration industry by forging a coalition with reformist officials. In response to political pressure from opponents of reform, the reformist officials took advantage of the requirements of the World Bank and UN programs as well as associated technical assistance, in addition to investment from multinational corporations. This political coalition promoted China's Agenda 21 and the China Environmental Strategy Paper, which formulated by a series of pro-market environmental policies. Finally, two BOT legal frameworks were passed in 1995. These BOT policies provided a hospitable political-legal arrangement for incineration corporations.

After the Asian financial crisis of 1998, the creation of industry associations for the nascent incineration industry provided vital organizational platforms through which industrial experts, officials, academics, and corporate leaders could exchange information, create personal ties, and promote policies. Moreover, after the global financial crisis of 2008, a decrease in BOT projects and SOE investments in the incineration market intensified competition among the private incineration companies and SOEs. At this juncture, industry associations mediated conflicts of interest inside the business, and joined with SOEs and other powerful actors for further investment and favorable policies. These policies helped the incineration industry to ride out the crisis and thrive.

Neo-liberal Ideology

The analysis shows that the waxing and waning popularity of neo-liberal ideology shaped the political spaces of diverse social actors and so affected their ability to influence environmental policies. This factor of ideological popularity determines: (1) whether social actors can gain legitimacy through using neo-liberal discourses to present their respective agendas, and (2) whether social actors can offer alternative agendas to promote their interests. Initially, the pro-incineration group capitalized on the prevalence of neo-liberalism to build support for the creation of the private incineration industry. When neo-liberal ideology attracted heavy criticism following the global financial crisis of 2008, the pro-incineration group altered its strategy to align with SOEs. By changing its strategy to match the changing ideological landscape, the incineration industry has won victories in two major controversies, first, expanding the incineration market in tandem with neo-

liberal reforms, and then presenting incineration as a solution to the urban garbage problem.

Between 1989 and 2007 neo-liberalism served as the dominant ideology of China's economic reform. Utilizing neo-liberal discourses, the pro-reform group gained legitimacy to promote the marketization of environmental policies. After 1989, the neo-liberal sustainable development agenda was successfully co-opted by reformists to promote privately-owned environmental corporations, including incineration corporations. Examples of this success included privatization of public utilities investment through the BOT scheme and the breaking up of the State Power Corporation's monopoly. In this atmosphere of political dueling between the pro-reform group in the state and their opponents, the Chinese incineration industry was created, with a seemingly ever-expanding market for economic growth.

Chinese critics of neo-liberalism failed to change the direction of the pro-market state policy during the first two period examined in this study. However, they succeeded during the third period, when neo-liberalism was blamed for the global financial crisis of 2008. In a political atmosphere in which it was assumed that unregulated market had created the crisis, there were suggestions that SOEs could outperform ill-disciplined private companies engaged in constant negative competition with one another. SOEs exploited this anti-neo-liberalist rhetoric to expand their businesses, including in the incineration industry. Private incineration corporations had difficulty using neo-liberal discourses to constrain this expansion of SOEs. Instead, the response of private incineration corporations to this new competition was to reach tacit agreements whereby

they yielded lucrative markets in first-tier cities (i.e., Beijing, Shanghai, Guangzhou, Chongqing, and Tianjin) to the SOEs, while retaining lesser markets for themselves. Together with their new allies, business leaders in the Chinese incineration industry also successfully shifted financial burden associated with the construction and operation of incinerators from the local governments to the central government in the 12th Five-Year Plan and the revised feed-in tariff rules.

As the incineration business began to thrive throughout China after 2005, environmentalists raised alarms regarding the associated toxic air pollution. Although anti-incinerator groups launched several successful campaigns to suspend incinerator construction, they failed to effectively oppose to pro-incineration urban waste policies. Central to this failure was the association with changes in neo-liberal influences. Environmental advocacy groups owed much of their freedom to laxer political atmosphere during the years of China's greatest economic prosperity, which in turn was widely attributed to neo-liberal market reforms. In the absence of an examination of changes in neo-liberalism, which would inevitably include a critique of the market economy, anti-incinerator groups have had difficulty making gains. In Beijing, for example, while anti-incineration groups had successfully delayed several incinerator construction projects, the incineration industry had simultaneously defined a new developmental agenda to open up even more projects. Based on their realization of the decline of neo-liberalism, they allied with SOEs to promote pro-incineration policies.

THEORETICAL IMPLICATIONS

State-centered vs. Society-centered Theory

After the market reform in 1979, some environmental sociological studies on China began to debate whether the state maintained its capacity to develop and implement environmental policies. Drawing on the central tenets of society-centered theories, the citizenship awareness model argues that ENGOs can influence policies as the control of an authoritarian regime fades. In contrast, environmental authoritarianism draws upon state-centered theories to suggest that the state determines the transformation of environmental policies. However, neither model can transcend the fundamental weaknesses of both state-centered and society-centered theories. Both models fail to examine the variance over time in how diverse actors affect policy formation processes. As a result, neither model can effectively explain the complex developmental processes related to the Chinese incineration industry.

Environmental Authoritarianism

Research on environmental authoritarianism points out that through the establishment of top-down decision-making structures, the Chinese state maintains its ability to determine environmental policies. State managers used these structures to limit participation in environmental governance work to professional and neutral officials, scientists and technocrats. This exclusion of social interest-based interference in policy formation processes allows the state to offer more practical and efficient policy (Gilley 2012; Eaton and Kostka 2014).

However, environmental authoritarianism is limited in its ability to portray the capacity of social actors within these state structures. The present study has demonstrated that changes in state structures to fit the developing market economy did not ensure state autonomy. For example, when the Chinese government responded to economic crises with bailout policies, reformists and corporations mobilized politically to redefine state agendas. This occurred in three ways. First, because the political and economic crises constrained economic growth, reformists and corporations mobilized politically to advance preferred policies. Second, the market reform reinforced corporate power and resources, increasing the veto power of corporations over the state, and the ability of corporations to ally with state managers. Third, changes in the state structures provided corporations with channels for policy influence. Downsized state departments faced increased challenges in information collection, technical expertise, and other capacities necessary to promote the market operations. Leaders in the incineration industry, being familiar with the market and incineration technology, therefore were recruited to assist these departments. The result was that the state structures became a political-legal apparatus through which industry leaders could pursue their interests.

Environmental authoritarianism also fails to adequately explain internal conflicts involving state departments. Studies of environmental authoritarianism have suggested that such internal conflicts arose from territorial overlap in the jurisdictions of different departments. Environmental authoritarianism also states that the solution to internal conflicts rests on: (1) bureaucratic rules that regulate interactions among departments, and

(2) state managers having knowledge and information that allow them to negotiate with each other (Moore 2014).

This research demonstrated that internal conflicts involving state agencies result from social actors engaging in political activity that targets these agencies. After experiencing a downsizing owing to the administrative reforms, the Chinese government reacted to a personnel shortage by changing the state structures to recruit social actors to participate in decision-making processes. Specifically, the pro-reform group forged a political coalition with reformist officials that contributed to conflict with state departments between forces opposed to and supportive of further market reforms. Similarly, the debate over garbage disposal solutions involving different agencies of the Beijing government lay in the political influences on those agencies of pro- and anti-incineration groups which attempted to fulfill their solid waste agendas.

This research also discovered that the state mediates inter-departmental conflict by collaborating with social actors. Between 1989 and 2007, pro-reform officials confronted resistance from several state agencies to a set of pro-market environmental policies. Pro-reform officials therefore exploited requirements of international institutions, consultation with private BOT corporations, and support from industry associations. Finally, pro-reform officials transcended opposition and passed a set of BOT policies that created a boom for incineration corporations.

Citizenship Awareness Model

The limitations of the citizenship awareness model are rooted in its inability to explore unequal power among social actors and the complex decision-making processes

that underlie environmental policies. Studies of the citizenship awareness model have addressed the emergence of anti-incinerator campaigns and their effects on municipal solid waste policies. These studies generally concluded that the success of these campaigns in suspending incinerator projects represented the ability of social civil groups to influence municipal solid waste policies (Johnson 2010; Guo and Chen 2011; Chen 2012; Johnson 2013b).

However, this research has demonstrated that the theoretical framework of citizenship awareness model is too narrow to include the effects of other actors on municipal solid waste policies. Using the organizational-political economy perspective, this study does not completely reject the influence of anti-incinerator campaigns, but focuses instead on the imbalance in political power between corporations and environmental organizations. The political-legal arrangements allowed pro-incineration members to connect the state structures, establish efficient political coalitions, and utilize neo-liberal discourses. These political-legal arrangements limited the capacity of the anti-incinerator groups to influence decision-making processes and challenge the incineration developmental agenda.

The Creation and Operation of the Incineration Market

This research supports the organizational-political economy perspective that market creation cannot be separated from politics. In contrast to neo-liberalism's claim that markets are self-regulating and independent of the state, this study found that the incineration market was created by the collective political actions of social actors through the state structures. Between 1989 and 1997, reformist officials aligned with MNCs and

international institutions to promote further market reforms. The hallmark policy measure of the reform was to privatize public utilities. Taking advantage of international institutions and MNCs, the pro-reform group fulfilled a set of policies that transformed public utilities from state functions into market-orientated enterprises. BOT, a fee-collecting system, and financing rules were created to support incineration corporations to make loans and collect fees. The incineration market in China emerged not from the business behavior of incineration corporations, but rather from political actions and administrative reforms enacted by diverse power groups.

My analysis also provides limited evidence to support the industrial environmental management model's claim that markets can encourage corporations to increase efficiency and enact private environmental regulations. As members of an industry involved in environmental management, incineration corporations claimed that they established strict private regulations, followed environmental norms, and provided an example for other sectors. The Chinese incineration industry should be a perfect case to prove the explanatory power of the industrial environmental management model. However, instead of living up to their environmental commitments, incineration corporations established and operated numerous polluting incinerators. From the organizational-political economy perspective, this study explored three reasons why incineration corporations violated their commitments. First, like corporations in all industries, incineration corporations were concerned with issues related to their survival, such as market expansion and subsidy policies. Especially after the Asia financial crisis of 1998 and the global financial crisis of 2008, incineration corporations focused on policy changes that protected their interests.

Environmental commitments therefore became part of the rhetoric they used to legitimize their political actions and influence policies.

Second, although incineration corporations successfully established BOT and feed-in tariff policies to expand the market, these policies had an unintended consequence: substantial investments intensified already severe competition in the incineration market and contributed to a situation of cutthroat competition. To win BOT project bids, corporations cut garbage disposal fees, paid by the local governments. In 2016, garbage disposal fees hit a record low of US\$3 per ton.¹ As the incomes of incineration corporations decreased, they became reluctant to increase their investments in pollution prevention technology.

Third, incineration corporations aligned with local government leaders concerned with garbage disposal issues. Under pressure from these leaders, local environmental authorities supported incineration projects, refrained from implementing regulations, and ignored incinerator pollution. The result was to motivate incineration corporations to delay pollution reduction measures.

LIMITATIONS OF THE STUDY

The Beijing case study could not provide a comparative analysis of changes in the municipal solid waste policies of diverse cities and countries. Although this study traced

¹ In developed countries, garbage incineration fees are US\$34-113 per ton. The China Environment Chamber of Commerce calculated that a reasonable garbage incineration fee in the Chinese context would be US\$21 per ton.

historical processes to identify and examine causal factors behind social changes, an appropriate comparative analysis is necessary to reach conclusions regarding the theoretical importance of similarities or differences among cases. For example, my research demonstrates that historical conditions, state structures, political coalitions, and neo-liberalism affected environmental policies within the central and Beijing governments. Without a comparative analysis, there is a problem of generalizability to ensure that the above causal factors can explain other cities and countries' incineration development. Additionally, this study only partly analyze the role of the Chinese Communist Party in environmental policy formation. As many scholars of China have argued, China remains a one-party state, and the Chinese Communist Party continues to wield power in policy determination (Guo 2013; Saich 2016). Furthermore, members of the Chinese Communist Party hold the most authoritative positions, even at the grassroots levels, to directly and indirectly control the entire social structure. Without comprehensively and theoretically analyzing the party's various roles, any conclusions regarding whether the state or the society ultimately determines policies may be biased. However, the opaque nature of the inner workings of the party makes it difficult to gather credible information on this area simply by interviewing participants during fieldwork.

Moreover, although this study found that much of the investment in the incineration business occurs through holding companies, I did not examine the political effects of these companies. Corporate forms are important because organizational structures determine the abilities of organizations to gather information, make decisions, access outside actors, and so on (Prechel and Morris 2010; Prechel 2012). When many

SOEs and private corporations evolved into holding companies after 2008, their ownership became more diversified and subsidiaries were established with jointly ownership by SOEs and private corporations. This development means that the traditional methods for distinguishing SOEs and private corporations (and examining their political actions) may be biased.

Finally, this study was unable to theorize about anti-incinerator movements. It examined the reasons behind the emergence, development, and decline of the policy influence of anti-incinerator campaigns. Although these reasons provide new insights into the development of a social movement and the interactions of that movement with the state and other social actors, it is unclear whether the study findings can supplement or replace other social movement theories. For example, in recent years, social movement scholars have attempted to address the shortcomings of political opportunity theory. They have argued that political opportunities are not an objective existence but instead comprise social processes that are recognized or even produced through interactions among social actors (Jasper 2012). My research contended that the constraints of state structures, political coalitions, and neo-liberalism impacted the abilities of anti-incinerator groups to influence municipal solid waste policies. There is no attempt to analyze the removal of these constraints as political opportunities and to analyze how the removal occurs.

DIRECTIONS FOR FUTURE RESEARCH

There are several ways to extend this research's findings. First, a comparative historical analysis of other industries, cities and countries can compare similarities or differences of these research findings. In this way, the researchers can identify more

reliable causal factors and enhance this study's explanatory power and generalizability. For example, similar to the Chinese incineration industry, other industries also experienced the market reform practices. Future comparative historical analysis for other industries can identify MNCs, international institutions, domestic private corporations, and reformist officials' roles in policies. If my four interrelated propositions (involving historical conditions, the state structures, political coalitions, and neo-liberal ideology) can explain their influences, the comparative analysis is able to enhance this study's generalizability.

Furthermore, the incineration development in democratic countries may have different outcomes. For example, India, South Korea, and Taiwan are democratic countries. In the late 1990s and early 2000s, they were enthusiastic towards the incineration industry influenced by the promotional activities of international institutions and MNCs. The emergence of ENGOs has suspended the continuous expansion of incinerator construction in these countries after 2000. A comparative historical analysis of these countries can reexamine explanatory power of other three prevailing models and the organizational-political economy perspective. When historical variations in historical conditions, the state structures, political coalitions, and neo-liberal ideology affect these countries' incineration usage, this comparative analysis can strengthen my study's generalizability

Second, follow-up research with participant observation methods would gain trust of interviewees and organizations to collect more reliable data. This approach can encourage interviewees and organizations to share sensitive information. In this way, it is

possible for deeper insight into operations of holding companies and Chinese Communist Party's rules in decision-making processes.

Third, future research can apply the organizational-political economy perspective to track social movement groups' efforts to influence policies. The research can identify the relationships between my four interrelated propositions and policy outcomes. For example, the researchers can examine ENGOs' political mobilization to access state structures and establish political coalitions. If the mobilization contributes towards a significant influence on policies, it is possible to conceptualize state structures and establish political coalitions as political opportunities created by ENGOs.

REFERENCES

- Adams, William M. 2001. *Green Development: Environment and Sustainability in the Third World*. London; New York: Routledge.
- Akard, Patrick J. 1992. "Corporate Mobilization and Political Power: The Transformation of U.S. Economic Policy in the 1970s." *American Sociological Review* 57(5):597-615.
- Albert, Eleanor and Beina Xu. 2016, "China's Environmental Crisis." Council on Foreign Relations. Retrieved November 13, 2016, (<https://www.cfr.org/backgroundunder/chinas-environmental-crisis>).
- Alvarez, Sonia E. 2009. "Beyond NGO-ization?: Reflections from Latin America." *Development* 52(2):175-84.
- Asian Development Bank. 2015. "Addressing Climate Change Risks, Disasters, and Adaptation in the People's Republic of China." Mandaluyong City, Philippines: Asian Development Bank.
- Babb, Sarah L. 2001. *Managing Mexico: Economists from Nationalism to Neoliberalism*. Princeton, N.J.: Princeton University Press.
- Barboza, David. 2008. "China Unveils Sweeping Plan for Economy." *New York Times*, November 10, 2008.
- Becker, J. 2012. "The Knowledge to Act: Chinese Migrant Labor Protests in Comparative Perspective." *Comparative Political Studies* 45(11):1379-404.
- Beeson, Mark. 2010. "The Coming of Environmental Authoritarianism." *Environmental Politics* 19(2):276-94.
- Beijing Engineering Consulting Corporation. 1995. *BOT Xiangmu Zhinan - Jichu Sheshi Touzi Fangshi Zhiyi. (BOT Project Guidelines - One of Infrastructure Investment)*. Beijing: Seismological Press
- Beijing Environmental Sanitation Administration. 1996. *Options for Domestic Solid Waste Treatment in Beijing*. Beijing Environmental Sanitation Administration.
- Beijing Municipal Committee of the City. 2007. *Beijingshi Shiyiwu Shiqi Shenghuo Laji Chuli Sheshi Jianshe Guihua Shishi Fangan. (Beijing MSW Treatment Facility*

- Construction Implementation Plan in the 11th Five-year Plan*). Beijing Municipal Committee of the City.
- _____. 2013. *Beijingshi Shenghuo Laji Chuli Sheshi Jianshe Sannian Shishi Fangan. (The Three-year Plan of Beijing MSW Treatment Facility Construction Implementation Plan)*. Beijing Municipal Committee of the City.
- Beijing North Olympic Area Volunteer Study Team. 2009. “Zhongguo Chengshi Huanjing De Shengsi Jueze: Laji Fenshao Zhengce Yu Gongzhong Yiyuan.” (Chinese City Environment’s life-or-death decision: Waste Incineration Policy and Public Intention). Beijing North Olympic Area Volunteer Study Team.
- Bernstein, Steven F. 2001. *The Compromise of Liberal Environmentalism*. New York: Columbia University Press.
- Blee, Kathleen M. and Verta Taylor. 2002. “Semi-Structured Interviewing in Social Movement Research.” in *Methods of Social Movement Research*, edited by Bert Klandermans and Suzanne Staggenborg. Minneapolis, Minnesota: University of Minnesota Press.
- Block, Fred. 1977a. *The Origins of International Economic Disorder: A Study of United States International Monetary Policy from World War I to the Present*. Berkeley: University of California Press.
- _____. 1977b. “The Ruling Class Does Not Rule: Notes on the Marxist Theory of the State.” *Socialist Revolution* 7:6-28.
- _____. 2007. “Beyond Relative Autonomy: State Managers as Historical Subjects.” *New Political Science* 2(3):33-49.
- Bruno, Kenny. 1992a. “The Corporate Capture of the Earth Summit.” *Multinational Monitor*.
- _____. 1992b. “Greenpeace Book of Greenwash.” Amsterdam: Greenpeace.
- Bunker, Stephen G. 1985. *Underdeveloping the Amazon: Extraction, Unequal Exchange, and the Failure of the Modern State*. Urbana: University of Illinois Press.
- Cao, Xun and Hugh Ward. 2011. “Authoritarian Regimes and Environmental Performances.” Paper presented at the Annual meeting of the International Studies Association Annual Conference, Montreal, Canada.
- Cao, Yan. 2013. “Zhengfu Yu Gongmin Shehui Guanxi Shijiao Xia De Woguo Hangzheng Juece De Minzhuhua.” (The Democratization of Chinese

- Administrative Decision-making in the Prospective of the Social Relationship between Government and Citizens). *Journal of Taiyuan University of Technology (Social Sciences Edition)* 31(3).
- Carroll, William K. 2014. "Alternative Policy Groups and Transnational Counter-Hegemonic Struggle." in *Global Economic Crisis and the Politics of Diversity*, edited by Yildiz Atasoy. New York: Palgrave Macmillan.
- Cen, Yu-hong, Xiao-dong Li and Sally Randles. 2006. "Waste Incineration for Energy: The Experience of China." in *Industrial Ecology and Spaces of Innovation*, edited by Kenneth Green and Sally Randles. Northampton, Massachusetts: Edward Elgar Publishing.
- Ceng, Pei-yan. 2001. *Guanyu Zhangqi Jianshe Guozhai Touzi Shiyong Qingkuang De Baogao. (A Report of Long-term Treasury Bonds for Construction)*. State Development Planning Commission.
- Ceng, Yu-chang 2004. "Strategic Studies on the Policy of Guangdong Province in Using World Bank Loans." Master, Business School, Sun Yat-sen University.
- Centre for Our Common Future. 1990. "Brundtland Bulletin." Centre for Our Common Future.
- Chatterjee, Pratap and Matthias Finger. 1994. *The Earth Brokers: Power, Politics and World Development*. London; New York: Routledge.
- Chen, Ji-song. 2003. "Guanyu Wosheng Jianshe Shiye Fazhan Ruogan Wenti De Sikao." (The Thinking of Few Questions about Our Province's Construction Development). *Zhejiang Construction* (1).
- Chen, Jia-gui. 2008. *Zhongguo Qiye Gaige Fazhan Sanshi Nian. (Chinese Enterprises Reform Development in 30 Years)*. Beijing: China Financial and Economic Publishing House.
- Chen, Wang-xiang. 2005, "Zhongguo Dianli Tizhi Gaige De Huigu He Zhanwang." (The Review and Outlook of the Electric Power System Reform). China Power News Network. Retrieved March 10, 2017 (<http://finance.sina.com.cn/chanjing/b/20050406/19441494266.shtml>).
- Chen, Xiao-yun. 2012. "Qu Zu Zhi Hua: Ye Zhu Ji Ti Xing Dong De Ce Lue." (Disorganize: the Strategy of Homeowners' collective Activisms). *Journal of Public Management* 9(2):67-75.
- Chen, Xudong, Yong Geng and Tsuyoshi Fujita. 2010. "An Overview of Municipal Solid Waste Management in China." *Waste Management* 30(4):716-24.

- Cheng, Li and Lynn White. 1990. "Elite Transformation and Modern Change in Mainland China and Taiwan: Empirical Data and the Theory of Technocracy." *The China Quarterly* (121):1-35.
- Child, J., Y. Lu and T. Tsai. 2007. "Institutional Entrepreneurship in Building an Environmental Protection System for the People's Republic of China." *Organization Studies* 28(7):1013-34.
- China Electric Power News. 2008. "Guojia Fagaiwei Ni Diaozheng De Butie Moshi." (The NDRC Attempted to Adjust Subsidy Rules). *China Electric Power News*, December 11, 2008.
- China Environment Chamber of Commerce. 2011. "Guanyu Jinyibu Tuidong Liuhuachuang Laji Fenshao Jishu Fazhan De Zhengce Jianyi." (A Policy Suggestion of Promotion of Development of CFBC Technology). *China Environment Chamber of Commerce*.
- _____. n. d., "Chamber's Summery." Beijing: China Environment Chamber of Commerce. Retrieved March 3, 2017 (<http://www.cecc-china.org/guanyu/5720.html>).
- China Sciences Group. 2009. "Zhongke Jituan Xiezhu Guojia Fagaiwei Nengyuan Yanjiusuo Juban Liuhuachuang Laji Fenshao Fadian Chang Dianjia Butie Banfa Yantaohui." (The CECC Incineration Plants' Electricity Price Subsidy Conference held by the China Sciences Group). The CECC Incineration Plants' Electricity Price Subsidy Conference, Shanghai.
- Chinese Delegation of the UNCED. 1992. *Chuxi Lianheguo Huanjing Yu Fazhan Dahui De Qingkuang He Youguan Duice De Baogao. (A Report of Participation in the UNCED's Situation and Future Tactics)*. Chinese Delegation of the UNCED.
- Christmann, Petra and Glen Taylor. 2001. "Globalization and the Environment: Determinants of Firm Self-Regulation in China." *Journal of International Business Studies* 32(3):439-58.
- Clapp, Jennifer and Peter Dauvergne. 2011. *Paths to a Green World: The Political Economy of the Global Environment*. Cambridge, Massachusetts: MIT Press,.
- Cox, Robert W. 1983. "Gramsci, Hegemony, and International Relations: An Essay in Method." *Millennium: Journal of International Studies* 12(2):162-75.
- Deng, Yong. 2005. "Better Than Power: 'International Status' in Chinese Foreign Policy." Pp. 51-72 in *China Rising: Power and Motivation in Chinese Foreign Policy*, edited by Yong Deng and Fei-Ling Wang. Lanham, Maryland: Rowman & Littlefield.

- Department of Economic Construction of Ministry of Finance. 2006. *Zhongguo Jiji Caizheng Zhengce: 1998-2004nian Guozhai Xiangmu Touzi Jishi*. (China Active Fiscal Policy: Record of 1998-2004 National Debt Project Investment), Vol. 1. Beijing: China Financial and Economic Publishing House.
- Diamant, Neil J. 2010. "Why Achieves?" in *Contemporary Chinese Politics: New Sources, Methods, and Field Strategies*, edited by Allen Carlson, Mary E. Gallagher, Kenneth Lieberthal and Melanie Manion. New York: Cambridge University Press.
- Diani, Mario. 2002. "Network Analysis." in *Methods of Social Movement Research*, edited by Bert Klandermans and Suzanne Staggenborg. Minneapolis, Minnesota: University of Minnesota Press.
- Ding, Xiao-jing. 2012. "Feihui Chuzhi De Beijing Shiyan." (The Disposition of the Flying ash in Beijing). *Minsheng Weekly*.
- Domhoff, G. William. 1990. *The Power Elite and the State: How Policy Is Made in America*. New York: A. de Gruyter.
- Dong, Da-fang 2007. "Woguo Liyong Shijieyinhang Daikuan Moshi Yanjiu." (Research on Model of World Bank Loan in China). Doctor, Technological Economy and Management, Jilin University, Changchun.
- Dong, Guang-yao. 2015. "PPP: Guize De Tansuo Zhilu." (PPP: Exploration of Rules). *China Investment*.
- Dongjiang Environmental Company. 2009. "2008 Shenzhen Dongjiang Environmental Company Limited Annual Report." Dongjiang Environmental Company.
- Doyle, Timothy. 2010. "Sustainable Development and Agenda 21: The Secular Bible of Global Free Markets and Pluralist Democracy." *Third World Quarterly* 19(4):771-86.
- Dreiling, Michael C. 2000. "The Class Embeddedness of Corporate Political Action: Leadership in Defense of the NAFTA." *Social Problems* 47(1):21-48.
- Du, Tao, Dan Zhao and Zi Li. 2014. "16 Nian: Yige Gongsu Heying Xiangmu De Jinhuashi." (16 Years: An Evolutionary History of a PPP Projects). *Economic Observer*.
- Eaton, Sarah. 2013. "Political Economy of the Advancing State: The Case of China's Airlines Reform." *The China Journal* (69):64-86.

- Eaton, Sarah and Genia Kostka. 2014. "Authoritarian Environmentalism Undermined? Local Leaders' Time Horizons and Environmental Policy Implementation in China." *The China Quarterly* 218:359-80.
- Economy, Elizabeth. 2004. *The River Runs Black: The Environmental Challenge to China's Future*. Ithaca, New York: Cornell University Press.
- Ekins, Paul. 1993. "Making Development Sustainable." in *Global Ecology: A New Arena of Political Conflict*, edited by Wolfgang Sachs. London: Zed Books.
- Environmental Protection Committee. 1990. *1990nian Huanjing Baohu Gongzuo Yaodian (1990 Work Key Points)*. Environmental Protection Committee.
- Ervine, Kate. 2007. "The Greying of Green Governance: Power Politics and the Global Environment Facility." *Capitalism Nature Socialism* 18(4):125-42.
- Evans, Peter B., Dietrich Rueschemeyer and Theda Skocpol. 1985. *Bringing the State Back In*. Cambridge Cambridgeshire; New York: Cambridge University Press.
- Falkman, Edwin G. 1994. "Siying Huanjing Jigou Zai Shishi Zhongguo 21shijiye Chengzhong De Zuoyong." (Private Environmental Institutions' Influences on Implementation of China's Agenda 21). International High-Level Round Table Conference of China's Agenda 21, July 7-9, Beijing.
- Fan, Jing-chun, Jing-li Shi and Shi-ping Qin. 2010. "Laji Fenshao Fadian Dianjia Butie Fangfa Tanta." (Study on Pricing Policy and Subsidy Measure of Municipal Solid Waste Incineration for Power Generation). *Renewable Energy Resource* 28(2).
- Farquharson, Karen. 2005. "A Different Kind of Snowball: Identifying Key Policymakers." *International Journal of Social Research Methodology* 8(4):345-53.
- Faulkner, J. Hugh. 1994. "A Speech in International High-Level Round Table Conference of China's Agenda 21." International High-Level Round Table Conference of China's Agenda 21, July 7-9, Beijing.
- _____. 1997a. "Engaging the Private Sector Throught Public-Private Partnerships." *Yale Forestry & Environmental Bulletin* (101):157-72.
- _____. 1997b. "The Role of Business in International Environmental Governance." Pp. 150-58 in *International Governance on Environmental Issues*, edited by Mats Rolén, Helen Sjöberg and Uno Svedin. Dordrecht: Springer Netherlands.

- Fayong, Shi. 2008. "Social Capital at Work: The Dynamics and Consequences of Grassroots Movements in Urban China." *Critical Asian Studies* 40(2):233-62.
- Feng, Yong-feng. 2007. *Buyao Zhize Huanbao Juzhang: Cong Beijing Kan Zhongguo Chengshi Huanbao Chulu. (Do not Blame Director of Environmental Protection Bureau: Managing the Chinese Cities' Gargage from Beijing Experience)*. Beijing: World Affairs Press.
- Fernandez, Luis A. 2008. *Policing Dissent: Social Control and the Anti-Globalization Movement*. New Brunswick, N.J.: Rutgers University Press.
- Fisher, William F. 1997. "Doing Good? The Politics and Antipolitics of NGO Practices." *Annual Review of Anthropology* 26(1):439-64.
- Ford, Lucy H. 2003. "Challenging Global Environmental Governance: Social Movement Agency and Global Civil Society." *Global Environmental Politics* 3(2):120-34.
- Frank, David John, Ann Hironaka and Evan Schofer. 2000. "The Nation-State and the Natural Environment over the Twentieth Century." *American Sociological Review* 65(1):96-116.
- Fraser, Gerald. 1992a. *Earth Summit Times*, March 31, 1992.
- _____. 1992b. "Global Forum Opens Way to New Alliances." *Earth Summit Times*, June 2, 1992.
- _____. 1992c. "NGO Proposes Alternative to World Bank." *Earth Summit Times*, June 12, 1992.
- _____. 1992d. "NGOs Produce Alternative Treaties." *Earth Summit Times*, June 12, 1992.
- _____. 1992e. "NGOs See It as 'People' Versus Global Institutions." *Earth Summit Times*, June 14, 1992.
- Freeman III, Charles and Jin-yuan Wen. 2011. "China's New Leftists and the China Model Debate after the Financial Crisis." Washington D.C.: Center for Strategic and International Studies.
- Freestone, David. 2013. *The World Bank and Sustainable Development: Legal Essays*. Leiden: Martinus Nijhoff Publishers,.
- Freidman, Thomas. 1989. "US Suspends High-Level Links to China as Crackdown Goes On." *New York Times* June 21, 1989, pp. I1.

- Fryxell, Gerald E. and Carlos W. H. Lo. 2002. "Preferences for Dealing with Environmental Problems: An Empirical Study of Managers in Three Mainland Chinese Cities." *Journal of Environmental Management* 64(1):35-47.
- Fu, Xhen-yan. 2006. "Jiedu Kezaisheng Nengyuanfa." (Interpretation of the Renewable Energy Law). *Beijing Real Estate*.
- Fu, Yao. 2014. "Beijing Laji Fenshao Xiangmu Kunju Diaocha." (A Study of Beijing Solid Waste Incineration Project in a Dilemma). *China Newsweek*.
- Gallagher, Sean. 2013. "Meltdown: China's Environment Crisis." Pulitzer Center.
- Gan, Shi-jun. 1993. "Guanyu Zhiding Zhongguo 21shiji Yicheng De Huibao." (A Report of Formulating China's Agenda 21). Sustainable Development in China: International Workshop on China's Agenda 21, October 25-29, Beijing.
- Gilley, Bruce. 2012. "Authoritarian Environmentalism and China's Response to Climate Change." *Environmental Politics* 21(2):287-307.
- Giumelli, Francesco. 2013. *The Success of Sanctions: Lessons Learned from the Eu Experience*. New York: Routledge.
- Goldman, Ellen F. and Susan Swayze. 2012. "In-Depth Interviewing with Healthcare Corporate Elites: Strategies for Entry and Engagement." *International Journal of Qualitative Methods* 11(3):230-43.
- Goldman, Michael. 2007. "How 'Water for All!' Policy Became Hegemonic: The Power of the World Bank and Its Transnational Policy Networks." *Geoforum* 38(5):786-800.
- Goodman, David S. G. 1994. *Deng Xiaoping and the Chinese Revolution: A Political Biography*. London ; New York: Routledge.
- Gould, Lance. 1992. *Earth Summit Times*, May 13, 1992.
- Greenpeace International. 1992. "The Lessons of History: Stalled on the Road from Rio to Johannesburg." Netherlands: Greenpeace International.
- Gu, Lie-ming. 2001. "Laji Chanye Qianli Wuxian." (Solid Waste Industry Has Great Future). *Business World*.
- Guo, Baogang. 2007. "Beyond Technocracy: China's Quest for Legitimacy in the Era of Hu Jintao." Pp. 25-47 in *China in the Twenty-First Century: Challenges and Opportunities*, edited by Shiping Hua and Sujian Guo. New York: Palgrave Macmillan US.

- Guo, Sujian. 2013. *Chinese Politics and Government Power, Ideology, and Organization*. London; New York: Routledge.
- Guo, Wei-qing and Xiao-yun Chen. 2011. "Laji Chuli Zhengce Yu Gongmin Chuangyi Yundong." (Garbage Disposal Policy and Civil Society Movement). *Journal of Sun Yatsen University Social Science Edition* 51(4):95-121.
- H2o-china. 2002, "Huiyi Zongshu." (Meeting Summary). Beijing: h2o-china.com. Retrieved November 12, 2016 (<http://zt.h2o-china.com/meeting/2002/>).
- _____. 2004a, "Beijing Shehui Ziben Canyu Wushui Chuli." (Beijing Social Capital Participates in Sewage Treatment). Beijing: h2o-china.com. Retrieved January 12, 2017 (<http://www.h2o-china.com/news/30115.html>).
- _____. 2004b, "Qinghua Daxue, Zhongguo Shuiwang Diyijie Shuiye Gaoji Jishu Shalong Zai Beijing Chenggong Juban." (Tsinghua University and h2o-china.com Succeeded in holding the First Water Industry Advantaged Technology Salon in Beijing). Beijing: h2o-china.com. Retrieved October 30, 2016 (<http://www.h2o-china.com/news/27207.html>).
- _____. 2004c, "Zhongguo Shuiwang Yu Qinghua Daxue "Shuiye Texu Jingying Yu BOT"Gaoji Peixun Juhang." (H2o-china.com and Tsinghua University Held Water Utilities Franchising and BOT Training Class). Beijing: h2o-china.com. Retrieved October 31, 2016 (<http://www.h2o-china.com/news/29689.html>).
- _____. 2008, "Guoji Jinrong Weiji He Zhongguo Huanbao Hangye Hequ Hecong." (The International Financial Crisis and the Future of the Chinese Environmental Industry). Beijing: h2o-china.com. Retrieved October 10, 2016 (<http://www.h2o-china.com/news/26507.html>).
- _____. n. d., "Zhongguo Shuiwang Jianjie." (H2o-china.com Summary). Beijing: h2o-china.com. Retrieved November 15, 2016 (<http://help.h2o-china.com/about/youshi.shtml>).
- Hadler, M. and M. Haller. 2011. "Global Activism and Nationally Driven Recycling: The Influence of World Society and National Contexts on Public and Private Environmental Behavior." *International Sociology* 26(3):315-45.
- Han, Wen-fu. 1993. *Deng Xiaoping Zhuan: Zhiguo Pian. (Deng Xiaoping Biography: Manage State Volume)*. Taipei: China Times Publishing Co.
- He, De-fang. 2008. "Woguo Zhuanjia Zixun Zhidu Fazhan De Zhangai He Duice Fenxi." (On the Development Obstacles of Expert Consulting System in China and Their Solution). *China Soft Science* 20(7).

- He, Jian-kun, Xi-liang Zhang and Jiang-ping Xiao. 2004. "Kezaisheng Nengyuan Lifa Yanjiu Yu Lunzheng Baogao." (The Study and Demonstration Report of Renewable Energy Legislation). Beijing: Institute of Energy, Environment and Economy, Tsinghua University.
- Hecht, Alan D. 1999. "The Triad of Sustainable Development: Promoting Sustainable Development in Developing Countries." *The Journal of Environment & Development* 8(2):111-32.
- Held, David, Anthony McGrew, David Goldblatt and Jonathan Perraton. 1999. *Global Transformations: Politics, Economics and Culture*. Stanford, Calif.: Stanford University Press.
- Helleiner, Eric. 1994. *States and the Reemergence of Global Finance: From Bretton Woods to the 1990s*. New York: Cornell University Press.
- Hildebrandt, Timothy. 2012. "Development and Division: The Effect of Transnational Linkages and Local Politics on LGBT Activism in China." *Journal of Contemporary China* 21(77):845-62.
- Ho, Peter and Richard L. Edmonds. 2008. *China's Embedded Activism: Opportunities and Constraints of a Social Movement*. London; New York: Routledge.
- Hou, Zhao-xiao. 2007. "Minzhong Weiquan Chuchang Shengguo: Beijing Liulitun Laji Fenshao Fadianchang Huanjian Shimo." (The First Success of Citizen Right Protection: The Whole Story of Suspension of Beijing Liulitun Solid Waste Incineration Plant). *Democracy & Legal System*.
- Hsing, You-tien and Ching Kwan Lee. 2010. *Reclaiming Chinese Society: The New Social Activism*. London; New York: Routledge.
- Hsu, Chiung-Wen. 2012a. "Using a System Dynamics Model to Assess the Effects of Capital Subsidies and Feed-in Tariffs on Solar PV Installations." *Applied Energy* 100:205-17.
- Hsu, J. Y. J. 2012b. "Spaces of Civil Society: The Role of Migrant Non-Governmental Organizations in Beijing and Shanghai." *Progress in Development Studies* 12(1):63-76.
- Hu, An-gang. 2000. "Wei Xibu Dakaifa Touzi Juece: Ertan Dianzhan Jue Kuisun De Diaoyan Baogao." (Investment Decision of Development of the West Regions: The Survey Report of Ertan Hydropower Station's Huge Deficit). *Science News*.

- Hu, Shu-li, Kan Huo and Zhe-yu Yang. 2012. "Gaige Shi Zenyang Zhongqi De: Shehui Zhuyi Shichang Jingji Tizhi De Youlai." (How the Reform Restarted: The Origin of the Socialist Market Economy System). *China Reform*, December 1, 2012.
- Huang, H. 2002. "Overseas Studies and the Rise of Foreign Cultural Capital in Modern China." *International Sociology* 17(1):35-55.
- Inglehart, Ronald. 1977. *The Silent Revolution: Changing Values and Political Styles among Western Publics*. Princeton, N.J.: Princeton University Press.
- Jasper, James M. 2012. "Introduction: From Political Opportunity Structures to Strategic Action." Pp. 1-33 in *Contention in Context: Political Opportunities and the Emergence of Protest*, edited by Jeff Goodwin and James M. Jasper. Stanford, California: Stanford University Press.
- Jermier, John M., Linda C. Forbes, Suzanne Benn and Renato J. Orsato. 2006. "The New Corporate Environmentalism and Green Politics." Pp. 618-50 in *The Sage Handbook of Organization Studies*, edited by Stewart R. Clegg, Cynthia Hardy, Tom Lawrence and Walter R. Nord: SAGE Publications Ltd.
- Jia, Peng-yun. 2005. "Gaige Jihuo Beijing Shi Jichu Sheshi Jianshe." (Reform Catalyses Beijing Infrastructure Construction). *Invest Beijing*.
- Jin, Hui-yu. 2015a. "Laji Fenshao Xian Dijia Jingzheng Poju Zhilu Weijian." (Waste Incineration falls into Malignant Price competitions). *China Business News*, August 23, 2015.
- Jin, Yong-xiang. 2003. "Yi Shidian Xiangmu Tuijin Gongyong Shiye Gaige." (Using Pilot Projects to Promote the Reform of Public Utilities). *China Investment*.
- _____. 2006. "Gongyong Shiye Gaige De Sikao." (A Thinking of Public Utilities Reform). *China Investment*.
- _____. 2014, "Cong Zhongguo PPP Fazhan Licheng Kan Weilai." (From China's PPP Developmental Process to Look forward Future). *Caixin.com*. Retrieved June 25, 2016 (<http://opinion.caixin.com/2014-08-01/100712038.html>).
- _____. 2015b. "PPP: Buke Nizhuan De Zhengce Xuanze." (PPP is an irreversible Policy Choice). CEIBS Classmate Business Forum, Beijing.
- Jin, Yong-xiang and Yan-guang Chang. 2004. "Wei Shishi Texu Jingying Zhidu Baojia Huhang." (Supporting Franchising Rules). *China Investment*.

- Jin, Yong-xiang, Li-shun Wu and Yan-bo Ma. 2003. "You 'Po' Dao 'Li' Tuijin Shizheng Gongyong Hangye Shichanghua." (Pushing Urban Public Utility Marketization from "Destruction" to "Establishment"). *China Investment*.
- Jing, Yijia. 2008. "Outsourcing in China: An Exploratory Assessment." *Public Administration and Development* 28(2):119-28.
- Johnson, Thomas. 2010. "Environmentalism and Nimbyism in China: Promoting a Rules-Based Approach to Public Participation." *Environmental Politics* 19(3):430-48.
- _____. 2013a. "The Health Factor in Anti-Waste Incinerator Campaigns in Beijing and Guangzhou." *The China Quarterly* 214:356-75.
- _____. 2013b. "The Politics of Waste Incineration in Beijing: The Limits of a Top-Down Approach?". *Journal of Environmental Policy & Planning* 15(1):109-28.
- Johnston, Alastair I. 2014. *Social States: China in International Institutions, 1980-2000*. Princeton, N.J.: Princeton University Press.
- Jordan, Andrew, Rüdiger K. W. Wurzel and Anthony Zito. 2005. "The Rise of 'New' Policy Instruments in Comparative Perspective: Has Governance Eclipsed Government?". *Political Studies* 53(3):477-96.
- Kalberg, Stephen. 1994. *Max Weber's Comparative-Historical Sociology*. Cambridge: Polity Press.
- _____. 2012. *Max Weber's Comparative-Historical Sociology Today: Major Themes, Mode of Causal Analysis, and Applications*. Farnham ; Burlington, VT: Ashgate.
- Kennedy, Scott. 2005. *The Business of Lobbying in China*. Cambridge, Massachusetts: Harvard University Press.
- Kent, Ann. 2002. "China's International Socialization: The Role of International Organizations." *Global Governance* 8(3):343-64.
- Khanna, Madhu. 2002. "Non-Mandatory Approaches to Environmental Protection." *Journal of Economic Surveys* 15(3):291-324.
- Klandermans, Bert and Jackie Smith. 2002. "Survey Research: A Case for Comparative Designs." in *Methods of Social Movement Research*, edited by Bert Klandermans and Suzanne Staggenborg. Minneapolis, Minnesota: University of Minnesota Press.

- Lan, Jing, Makoto Kakinaka and Xianguo Huang. 2011. "Foreign Direct Investment, Human Capital and Environmental Pollution in China." *Environmental and Resource Economics* 51(2):255-75.
- Lange, Matthew. 2013. *Comparative-Historical Methods*. London: SAGE.
- Lardy, Nicholas R. 2014. *Markets over Mao: The Rise of Private Business in China*. Washinton, DC: Peterson Institute for International Economics.
- Lee, Yok Shiu. 2005. "Public Environmental Consciousness in China: Early Empirical Evidence." Pp. 35-65 in *China's Environment and the Challenge of Sustainable Development*, edited by Kristen Day. Armonk, N.Y.: M.E. Sharpe.
- Li, Dong-xu. 2003, "Jiakuai Shizheng Gongyong Hangye Shichanghua De Jincheng (Speed up the Process of the Marketization of Urban Utilities)." People's Daily Online. Retrieved November 21, 2016 (<http://www.people.com.cn/GB/jinji/32/180/20030410/968583.html>).
- Li, He. 2006. "Returned Students and Political Change in China." *Asian Perspective* 30(2):5-29.
- Li, Jian-jun. 2005, "Zhongguo Gufeiwang Shanliang Dengchang, Xieshou Qinghua Juban Gufei Shalong." (Solidwaste.com.cn Emerges blinking, Holding Solid Waste Advanced Salon with with Tsinghua University). Beijing: h2o-china.com. Retrieved October 31, 2016 (<http://www.solidwaste.com.cn/news/39524.html>).
- Li, Ke-cheng. 2012. "Shizheng Gongyong 'Guoyouhua' Huichao." (Urban Utilities' Nationalization). *South Reviews*.
- Li, Peter Ping. 2008. "The Duality of Crony Corruption in Economic Transition: Toward an Integrated Framework." *Journal of Business Ethics* 85(1):41-55.
- Li, Yang. 2011. "Dangqian Laji Fadian Jiage Zhengce Cunzai Wenti Ji Zhengce Jianyi." (Current Problems of Solid Waste Power Generation Price and Policy Suggestions). *Price: Theory & Practice*.
- Lieberthal, Kenneth. 2004. *Governing China: From Revolution through Reform*. New York: W. W. Norton.
- Lieberthal, Kenneth and Michel Oksenberg. 1988. *Policy Making in China: Leaders, Structures, and Processes*. Princeton, N.J.: Princeton University Press.
- Liu, Dongxiao. 2006. "When Do National Movements Adopt or Reject International Agendas? A Comparative Analysis of the Chinese and Indian Women's Movements." *American Sociological Review* 71(6):921-42.

- Liu, Fu-jian. 1995. "Guan Yu BOT Tou Zi Fang Shi." (BOT Investment). *China Water Resources*.
- Liu, Ji-peng. 2015. *Dachuan Iaotou: Iangai Hibanian Fansi Yu Zhanwang. (A Big Ship's Turn around: The Electric Power System's Rethinking and outlook after 18 years)*. Beijing: The Oriental Press.
- Liu, Xiaohui and Wei Zhang, eds. 2010. *China's Three Decades of Economic Reforms*. London; New York: Routledge.
- Lo, Kevin. 2014. "A Critical Review of China's Rapidly Developing Renewable Energy and Energy Efficiency Policies." *Renewable and Sustainable Energy Reviews* 29:508-16.
- Lofland, John, David Snow, Leon Anderson and Lyn H. Lofland. 2006. *Analyzing Social Settings: A Guide to Qualitative Observation and Analysis*. Belmont, California: Thompson/Wadsworth.
- Longhofer, Wesley, Evan Schofer, Natasha Miric and David John Frank. 2016. "NGOs, INGOs, and Environmental Policy Reform, 1970–2010." *Social Forces* 94(4):1743-68.
- Lu, Mai. 2005. "Evaluation of the Effectiveness of the World Bank's Analytical Advisory Services to China since 1990." World Bank.
- Luo, Gan. 1998. *Guanyu Guowuyuan Jigou Gaige Fang'an De Shuoming. (A Illustration of the State Council's Administrative Reform)*. State Council.
- Lyon, Thomas P. and John W. Maxwell. 2004. *Corporate Environmentalism and Public Policy*. Cambridge; New York: Cambridge University Press.
- Ma, Li-cheng 2012. *Dangdai Zhongguo Bazhong Shehui Sichao (Eight Social Thoughts in Contemporary China)*. Beijing: Social Sciences Academic Press.
- Ma, Sheng-hong. 2004a. "Gaige Dianjia Fazhan Ludian." (Reform Electric Power Prices and Develop Green Electricity). *Solar Energy* (5).
- Ma, Ti. 2004b. "Dianhuang Jingshi." (The Caution of Power Shortage). *North China Power*.
- Ma, Xue-ling. 2014. "Beijing Huanbaoju Huiying Zhimai Redian Shiyi Weihe Weiqi Hongse Yujing." (The Beijing Environmental Bureau Responded the Hot Topic of Haze Treatment). *ChinaNews*, February 27, 2014.
- Mali, Ling-shan. 2010. "Zhao Zhang-Yuan Yu Laji Zuozhan." (Zhao Zhang-yuan Fought against Garbage). *Southern Weekly*.

- Mao, Yi-hu and Jin Chen. 1997. "Wo Guo Tui Hang BOT Xiang Mu Mian Lin De Wen Ti Yu Zheng Ce Jian Yi." (Promoting BOT Projects' Problems and Policy Suggestions). *China Soft Science* (8).
- Masood, Ehsan. 2015. "Maurice Strong (1929-2015)." *Nature* 528(7583):480-80.
- Matsuzawa, Setsuko. 2011. "Horizontal Dynamics in Transnational Activism: The Case of Nu River Anti-Dam Activism in China." *Mobilization: An International Quarterly* 16(3):369-87.
- McFadden, Robert. 1989. "The West Condemns the Crackdown." *New York Times*, June 5, 1989, pp. I12.
- Meng, Deng-ke. 2011. "Laji Fenshao Yuan He Mingxiu Zhandao Andu Chencang Liulitun Zhong Qijian Lujiashan Ji Shangma." (Why Solid Waste Incinerators be Quietly Established? The Liulitun incinerator Abandoning, Lujiashan Emerging). *South Weekly*, February 23, 2011.
- Merry, Sally Engle, Peggy Levitt, Mihaela Șerban Rosen and Diana H. Yoon. 2010. "Law from Below: Women's Human Rights and Social Movements in New York City." *Law & Society Review* 44(1):101-28.
- Mertha, Andrew. 2008. *China's Water Warriors: Citizen Action and Policy Change*. Ithaca: Cornell University Press.
- Mikecz, R. 2012. "Interviewing Elites: Addressing Methodological Issues." *Qualitative Inquiry* 18(6):482-93.
- Ministry of Construction. 2003a. *Guanyu Yinfa Jianshebu Zhuanjia Weiyuanhui Guanli Banfa De Tongzhi*. (The Notice of Administrative Rule of Committees of Experts of MOC). Ministry of Construction.
- _____. 2003b. *Jianshebu Kejisi 2003 Gongzuo Yaodian*. (The Key Points for the Work of Science and Technology of Department of the MOC in 2003). Ministry of Construction.
- Ministry of Environmental Protection. 2010. "2009 Report on the State of the Environment in China." Beijing, China: Ministry of Environmental Protection.
- Ministry of Foreign Affairs. 1992. *Guanyu Chuxi Lianheguo Huanjing Fazhan Dahui Fangzhen He Duice De Qingshi*. (Request for Instruction about Participating the UNCED's Guidelines and Countermeasures). Ministry of Foreign Affairs.
- Ministry of Science and Technology. 2000. *Guanyu Yinfa Jianshebu Deng 11ge Bumen Danwei Suoshu 134ge Keyan Jigou Zhuanzhi Fangan De Tongzhi*. (Issued a

Circular on MOC and Other Ten Department and Units' 134 Scientific Research Institution Reform Scheme). Ministry of Science and Technology.

Mizruchi, Mark S. 1987. "Why Do Corporations Stick Together? An Interorganizational Theory of Class Cohesion." Pp. 204-18 in *Power Elites and Organizations*, edited by G. William Domhoff and Thomas R. Dye. Newbury Park, California: Sage Publications.

Mol, Arthur P. J. 2007. "Bringing the Environmental State Back In: Partnerships in Perspective." in *Partnerships, Governance and Sustainable Development : Reflections on Theory and Practice*, edited by P. Glasbergen, Frank Biermann and Arthur P. J. Mol. Northampton, Massachusetts: Edward Elgar Publishing.

Mol, Arthur P. J. and Gert Spaargaren. 2002. "Ecological Modernization and the Environmental State." Pp. 33-52 in *The Environmental State under Pressure*, Vol. 10, edited by Arthur P. J. Mol and Frederick H. Buttel. Bingley, West Yorkshire: Emerald Group Publishing Limited.

Moore, Scott M. 2014. "Modernisation, Authoritarianism, and the Environment: The Politics of China's South-North Water Transfer Project." *Environmental Politics* 23(6):947-64.

Nankivell, Nathan. 2006. "China's Pollution and the Threat to Domestic and Regional Stability." *The Asia-Pacific Journal* 4(1).

National Development and Reform Commission. 2006. *Kezaisheng Nengyuan Fadian Jiage He Feiyong Fentan Guanli Shihang Banfa* (Trial Measures for the Management of Prices and Allocation of Costs for Electricity Generated from Renewable Energy). National Development and Reform Commission.

National People's Congress. 2005. *Shijie Quanguo Renda Changweihui Dishisici Huiyi Fenzu Shenxi Kezaisheng Nengyuanfa Caoan Fayan Zhaideng*. (The Symposium of Discussion of the Draft of the Renewable Energy Law in the Ten Session of the 14th Meeting of the Standing Committee of the NPC). National People's Congress.

Nielson, Daniel L. and Michael J. Tierney. 2003. "Delegation to International Organizations: Agency Theory and World Bank Environmental Reform." *International Organization* 57(02).

Niu, Mao-sheng. 1994. *Shenhua Shuili Gaige Qianghua Jichu Chanye Diwei* Wei Woguo Kechixu Fazhan Zhanlue Shishi Tigong Baozhang. (Deepening Water Resource Reform, Enforcing the Infrastructure Industry Position, Providing Protection of Implementation of China's Sustainable Development Strategy). Ministry of Water Resources.

- O'Brien, Kevin and Lianjiang Li. 2006. *Rightful Resistance in Rural China*. Cambridge; New York: Cambridge University Press.
- Offe, Claus and Helmut Wiesenthal. 1980. "Two Logics of Collective Action: Theoretical Notes on Social Class and Organizational Form." *South Political Power and Social Theory* 1:97-115.
- Orloff, Ann Shola and Theda Skocpol. 1984. "Why Not Equal Protection? Explaining the Politics of Public Social Spending in Britain, 1900-1911, and the United States, 1880s-1920." *American Sociological Review* 49(6):726.
- Ostrander, Susan A. . 1995. "'Surely You're Not in This Just to Be Helpful': Access, Rapport, and Interviews in Three Studies of Elites." in *Studying Elites Using Qualitative Methods*, edited by Rosanna Hertz and Jonathan B. Imber. London: SAGE Publications.
- Ouyang, Xiaoling and Boqiang Lin. 2014. "Levelized Cost of Electricity (LCOE) of Renewable Energies and Required Subsidies in China." *Energy Policy* 70:64-73.
- Pásztor, János. 1993. "Zhongguo 21shiji Yicheng Zhi Ding Guo Cheng." (Making Process of China's Agenda 21). Sustainable Development in China: International Workshop on China's Agenda 21, October 25-29, Beijing.
- Pantsov, Alexander and Steven I. Levine. 2015. *Deng Xiaoping: A Revolutionary Life*. Oxford: Oxford University Press.
- Patton, Michael Q. 1999. "Enhancing the Quality and Credibility of Qualitative Analysis." *Health Services Research* 34(5 Pt 2):1189-208.
- Pellow, David N. 2007. *Resisting Global Toxics: Transnational Movements for Environmental Justice*. Cambridge, Massachusetts: MIT Press.
- Perrow, Charles. 1997. "Organizing for Environmental Destruction." *Organization & Environment* 10(1):66-72.
- Polanyi, Karl. 2001[1944]. *The Great Transformation: The Political and Economic Origins of Our Time*. Boston: Beacon Press.
- Prechel, Harland. 1990. "Steel and the State: Industry Politics and Business Policy Formation, 1940-1989." *American Sociological Review* 55(5):648-68.
- _____. 1994. "Economic Crisis and the Centralization of Control over the Managerial Process: Corporate Restructuring and Neo-Fordist Decision-Making." *American Sociological Review* 59(5):723-45.

- _____. 2000. *Big Business and the State: Historical Transitions and Corporate Transformation, 1880s-1990s*. Albany: State University of New York Press.
- _____. 2012. "Corporate Power and US Economic and Environmental Policy, 1978-2008." *Cambridge Journal of Regions, Economy and Society* 5(3):357-75.
- Prechel, Harland and Theresa Morris. 2010. "The Effects of Organizational and Political Embeddedness on Financial Malfeasance in the Largest U.S. Corporations." *American Sociological Review* 75(3):331-54.
- Prechel, Harland and George Touche. 2014. "The Effects of Organizational Characteristics and State Environmental Policies on Sulfur-Dioxide Pollution in U.S. Electrical Energy Corporations." *Social Science Quarterly* 95(1):76-96.
- Princen, Thomas and Matthias Finger. 1994. *Environmental NGOs in World Politics: Linking the Local and the Global*. London; New York: Routledge.
- Qian, Ying-yi. 1996. "Enterprise Reform in China: Agency Problems and Political Control." *The Economics of Transition* 4(2):427-47.
- Qin, Feng-hua. 2009. "Laji Fenshao Fadian De Zhengce Jiaozhengqi." (An Orthotics of Solid Waste Incineration Electricity Generation). *China Investment*.
- Qu, Ge-ping. 1992. *Fazhan Woguo Huanjing Baohu Chanye Shizai Bihang. (It's Inevitable to Develop Our Environmental Industry)*. The Environmental Protection Committee of the State Council.
- Ragin, Charles. 1987. *The Comparative Method: Moving Beyond Qualitative and Quantitative Strategies*. Berkeley: University of California Press.
- Ragin, Charles and David Zaret. 1983. "Theory and Method in Comparative Research: Two Strategies." *Social Forces* 61(3):731-54.
- Ran, Ran. 2015. *Zhong Guo Di Fang Huan Jing Zheng Zhi: Zheng Ce Yu Zhi Hang Jian De Ju Li. (China's Local Environmental Politics: The Gap between Policies and Implementation)*. Beijing, China: Central Compilation & Translation Press.
- Ranganathan, Shilpa and Harland Prechel. 2007. "Political Capitalism, Neoliberalism, and Globalization in India: Redefining Foreign Property Rights and Facilitating Corporate Ownership, 1991–2005." Pp. 201-43 in *Research in Political Sociology*, Vol. 16, edited by Harland Prechel.
- Robinson, Thomas W. 1994. "Chinese Foreign Policy from the 1940s to the 1990s." Pp. 555-602 in *Chinese Foreign Policy: Theory and Practice*, edited by Thomas W.

Robinson and David L. Shambaugh. Oxford; New York: Clarendon Press;
Oxford University Press.

- Robinson, William I. 2005. "Gramsci and Globalisation: From Nation-State to Transnational Hegemony." *Critical Review of International Social and Political Philosophy* 8(4):559-74.
- Rohde, Robert A. and Richard A. Muller. 2015. "Air Pollution in China: Mapping of Concentrations and Sources." *PLoS ONE* 10(8).
- Rong, Yue. 1995. "Kuashiji Mengxun: Zhongguo 21shiji Yicheng Chutai Neimu " (A Cross-century Dream: An Inside Story of China's Agenda 21). *China Quality Miles*.
- Saich, Tony. 2016. *Governance and Politics of China*. New York: Palgrave.
- Salmenkari, T. 2008. "Searching for a Chinese Civil Society Model." *China Information* 22(3):397-421.
- Sang, Shi-jie and Dian-fa Zhang. 2011. "Xidian Dongsong Ji Dianli Gongye Tizhi Cunzai De Wenti Ji Jianyi." (Problems of Electric Power Transmission from West to East and Their Solutions). *Science and Technology Review* (7).
- Sapio, Flora. 2008. "Shuanggui and Extralegal Detention in China." *China Information* 22(1):7-37.
- Schaeffer, Robert K. 2009. *Understanding Globalization: The Social Consequences of Political, Economic, and Environmental Change*. Lanham, Md.: Rowman & Littlefield Publishers.
- Scherer, Andreas Georg, Guido Palazzo and Dorothée Baumann. 2015. "Global Rules and Private Actors: Toward a New Role of the Transnational Corporation in Global Governance." *Business Ethics Quarterly* 16(04):505-32.
- Schmidheiny, Stephan. 1992. *Changing Course: A Global Business Perspective on Development and the Environment*. Cambridge, Massachusetts: MIT Press.
- Seo, K. K. 1993. "Economic Reform and Foreign Direct Investment in China before and after the Tiananmen Square Tragedy." Pp. 109-36 in *International Business in China*, edited by Nelson Lane Kelley and Oded Shenkar. London; New York: Routledge.
- Shan, Ma. 2002. "Guoyou Zichan Weishime Liushi." (Why State Assets Lose?). *South Reviews*, February 4, 2002.

- Shearman, David and Joseph Wayne Smith. 2007. *The Climate Change Challenge and the Failure of Democracy*. Westport, Connecticut: Praeger.
- Shi, Fayong and Yongshun Cai. 2006. "Disaggregating the State: Networks and Collective Resistance in Shanghai." *The China Quarterly* 186:314.
- Shi, Han and Lei Zhang. 2006. "China's Environmental Governance of Rapid Industrialisation." *Environmental Politics* 15(2):271-92.
- Skidmore, David and William Gates. 1997. "After Tiananmen: The Struggle over U.S. Policy toward China in the Bush Administration." *Presidential Studies Quarterly* 27(3):514-39.
- Song, Jian. 1989. *Guowu Weiyuan, Guowuyuan Huanjing Baohu Weiyuan Zhuren Song Jian Zai Guowuyuan Huanjing Baohu Weiyuanhui Di Shiliu Ci Huiyi Shang De Jianghua. (State Councilor and the Chairman of the Environmental Protection Committee of the State Council Song Jian's Speech in the Sixteen Conference of the Environmental Protection Committee of the State Council)*. The Environmental Protection Committee of the State Council.
- South China Morning Post. 2016, "Yanurban Legend: China's Tiered City System Explained." South China Morning Post. Retrieved June 13, 2017 (<http://multimedia.scmp.com/2016/cities/>).
- Spires, Anthony J. 2011. "Contingent Symbiosis and Civil Society in an Authoritarian State: Understanding the Survival of China's Grassroots NGOs." *American Journal of Sociology* 117(1):1-45.
- Spires, Anthony J., Lin Tao and Kin-man Chan. 2014. "Societal Support for China's Grass-Roots NGOs: Evidence from Yunnan, Guangdong and Beijing." *The China Journal* 71:65-90.
- State Planning Commission. 1998. *Guanyu Tingzhi Zhixing Maiyong Dianquan Deng Youguan Guiding Yijian. (Stopping to Implement the Purchase of Power Credit)*. State Planning Commission.
- State Planning Commission and State Science and Technology Commission. 1994. *Xiong Guo 21 Shi Ji Yi Cheng You Xian Xiang Mu Ji Hua - Di Yi Pi. (Priority Project Plan of China's Agenda 21 - First Batch)*. State Planning Commission and State Science and Technology Commission.
- State Science and Technology Commission and State Planning Commission. 1992. *Guanyu Zhiding Zhongguo 21 Shiji Yicheng De Qingkuang Baogao. (Report of Situations of Drawing up China 21st Century Project)*. State Science and Technology Commission and State Planning Commission.

- Stockmann, Daniela. 2010. "Information Overload? Collecting, Managing, and Analyzing Chinese Media Content." in *Contemporary Chinese Politics: New Sources, Methods, and Field Strategies*, edited by Allen Carlson, Mary E. Gallagher, Kenneth Lieberthal and Melanie Manion. New York: Cambridge University Press.
- Tan, Cheng-cao. 2013. "The Research and Solid Evidence of Project Management Office of World Bank." Master, School of Economics and Management, Beijing University of Posts and Telecommunications.
- Tang, Shui-Yan and Xueyong Zhan. 2008. "Civic Environmental NGOs, Civil Society, and Democratisation in China." *Journal of Development Studies* 44(3):425-48.
- Therborn, Göran. 1978. *What Does the Ruling Class Do When It Rules?: State Apparatuses and State Power under Feudalism, Capitalism and Socialism*. London; New York: NLB; Schocken Books.
- Tian, Lei. 2008. "Liulitun Laji Dianchang Jiaoting Zhihou." (After the Liulituan Incinerator Suspension). *South Reviews*.
- Tietenberg, Tom. 1998. "Disclosure Strategies for Pollution Control." *Environmental and Resource Economics* 11(3-4):587-602.
- United Nations. 1993. "Earth Summit: Agenda 21, the United Nations Programme of Action from Rio." New York: United Nations,.
- United Nations Industrial Development Organization. 1998. *Municipal Solid Waste Management Systems, Technical Standards and Capacity Building in China (China's Agenda 21 Project; 6-5)*. United Nations Industrial Development Organization. US/CPR/150.
- Upton, Barbara. 2000. *The Multilateral Development Banks: Improving U.S. Leadership*. Westport, Connecticut: Praeger.
- Useem, Michael. 1982. "Classwide Rationality in the Politics of Managers and Directors of Large Corporations in the United States and Great Britain." *Administrative Science Quarterly* 27(2):199.
- _____. 1984. *The Inner Circle : Large Corporations and the Rise of Business Political Activity in the U.S. And U.K.* New York: Oxford University Press.
- Vogel, Ezra F. 2011. *Deng Xiaoping and the Transformation of China*. Cambridge, Massachusetts: Belknap Press of Harvard University Press.

- Wade, Robert. 1997. "Greening the Bank: The Struggle over the Environment, 1970-1995." Pp. 611-734 in *The World Bank: Its First Falf Century*, edited by Devesh Kapur, John P. Lewis and Richard Charles Webb. Washington, D.C.: Brookings Institution.
- Walder, Andrew G. 2003. "Elite Opportunity in Transitional Economies." *American Sociological Review* 68(6):899-916.
- Waldron, Scott, Colin Brown and John Longworth. 2006. "State Sector Reform and Agriculture in China." *The China Quarterly* 186:277-94.
- Wallance, Tina. 2004. "NGO Dilemmas: Trojan Horses for Global Neoliberalism?." *The Socialist Register* 40:202-19.
- Wang, Chao-hua 2004a. *Qilu Zhongguo. (Crossroads of China)*. Taipei: Linking Publishing.
- Wang, Chin-chih. 2015. "Garbage Politics: Policy Process and Political Participation in China." Doctor, Graduate Institute of East Asian Studies, National Chengchi University.
- Wang, Gai-xian. 2013. "Jiang Dianjia Buli Zhuanbian Jingji Fazhan Fangshi." (Reducing the Price of Electricity Worsens the Mode of Economic Development). *China Energy News*, June 24, 2013.
- Wang, Guang-dao. 2002. "Jianshebu Buzhang Wang Guang-Dao Zai 2002 Nian Quanguo Chengshi Wushui He Laji Zhili Yu Huanjing Jichu Sheshi Jianshe Gongzuo Huiyi Shang De Jianghua." (A Speech of Minister of MOC Wang Guang-dao in 2002 National Municipal Sewage and Solid Waste Governance and Environmental Infrastructure Facility Construction Work Conference). 2002 National Municipal Sewage and Solid Waste Governance and Environmental Infrastructure Facility Construction Work Conference, Hangzhou.
- Wang, Guang-hui. 2000. "Dapo Longduan: Cong Shichang Jingji Lijie Dianli Gaige." (Breaking Monopoly: Understanding the Electric Power System Reform from the Market Economy). *China Economic & Trade Herald*.
- Wang, Hongtao and Yongfeng Nie. 2011. "Municipal Solid Waste Characteristics and Management in China." *Journal of the Air & Waste Management Association* 51(2):250-63.
- Wang, Jing and Jia Feng. 2016. "Mengxiang Nameda Woxiang Qu Gouzhu." (I Want to Realize My Dreams). *Z-Park Non-governmental Science technology Entrepreneures*.

- Wang, Ming-yuan. 2007. “‘Kandejian De Shou’ Wei Zhongguo Kezaisheng Nengyuan Chanye Chengqi Yipian Liangli De Tiankong?: Jiyu Zhonghua Renmin Gongheguo Kezaisheng Nengyuan Fa De Fenxi.” (Can the ‘Visible Hand’ Mold a Bright Future for China’s Renewable Sources of Energy Industry: A study Based on the Renewable Energy Act of the PRC). *Modern Law Science* 29(6).
- Wang, Wei-guo. 2005. “Zhongguo Dianli Tizhi Gaige De Xinjinzhan Jiqi Shenhua.” (The Electric Power System Reform’s New Development and Deepening). *Journal of Social Sciences* (6).
- Wang, Xiao-bing. 2004b. “Dianli Gaige Fang’an Shimo.” (The Whole Story of the Electric Power System Reform). *China Reform*.
- Weaver, Catherine. 2008. *Hypocrisy Trap: The World Bank and the Poverty of Reform*. Princeton, N.J.: Princeton University Press,.
- Weber, Max. 1968. *Economy and Society: An Outline of Interpretive Sociology*. New York: Bedminster Press.
- Weimer, David Leo and Aidan R. Vining. 2011. *Policy Analysis: Concepts and Practice*. Boston: Longman.
- Welford, Richard and Eloy Casagrande. 1997. *Hijacking Environmentalism: Corporate Responses to Sustainable Development*. London: Earthscan Publications Ltd.
- Wen, Hua-wei. 2012. “Hui Wang Ertan (Looking Back Ertan).” *Energy Observer*.
- White, Gordon. 1996. “The Dynamics of Civil Society in Post-Mao China.” in *The Individual and the State in China*, edited by Brian Hook. Oxford, England; New York: Clarendon Press.
- Woods, Tim and Theresa Morris. 2006. “Fast Tracking Trade Policy: State Structures and NGO Influence During the NAFTA Negotiations.” *Research in Political Sociology* 15:177-204.
- World Bank. 1991. *China - Beijing Environmental Project*. Human Resources and Urban Development Operations Division Environment.
- _____. 1992. *China Environmental Strategy Paper*. Human Resources and Urban Development Operations Division Environment, China and Mongolia Department and East Asia and Pacific Regional Office. 9669-CHA.
- _____. 2005a. “China: An Evaluation of World Bank Assistance.” Washington D.C.: World Bank.

- _____. 2005b. "Guidance Note for Project Management: Strengthening Institutional Capacity During Project Implementation." Washington, DC: World Bank.
- _____. 2007. "Cost of Pollution in China: Economic Estimates of Physical Damages." Washington, D.C.: World Bank,.
- _____. n. d., "Concessions, Build-Operate-Transfer (BOT) and Design-Build-Operate (Dbo) Projects." Retrieved November 21, 2016 (<https://ppp.worldbank.org/ppp/agreements/concessions-bots-dbos>).
- World Bank Department of Ministry of Finance. 1996. "Diwuci Shijie Yinhang Daikuan Xiangmu Dajiancha Baogao." (The Fifth Inspection Report of the World Bank Loaning Projects). Beijing: China Investment and Construction.
- World Commission on Environment and Development. 1987. "Our Common Future." Oxford: World Commission on Environment and Development,.
- Wright, Glen W. 2012. "NGOs and Western Hegemony: Causes for Concern and Ideas for Change." *Development in Practice* 22(1):123-34.
- Wu, Fengshi. 2013. "Environmental Politics in China: An Issue Area in Review." 103-24.
- Wu, Zeng-yu and Chang-bin Liu. 1999. "Jiaru Shimao Zuzhi Yu Zhongguo Jianzhu Ye Fazhan De Youguan Wenti." (The Questions about Participation into the WTO and the Development of the Chinese Construction Industry). *International Economic Cooperation* (6).
- Wurst, J. 1992. "Concern as Business Helps Pay the Bill." *Crosscurrents*.
- Xie, Lei. 2009. *Environmental Activism in China*. London; New York: Routledge.
- Xu, Bin. 2016. "Moral Performance and Cultural Governance in China: The Compassionate Politics of Disasters." *The China Quarterly* 226:407-30.
- Xu, Xiang-dong. 2007, "Beijing Gaoantun Shenghuo Laji Fenshaochang Xiangmu Shilu." (The Record of the Beijing Gaoantun Incinerator Project). Focus.cn. Retrieved June 10, 2016 (<http://house.focus.cn/msgview/121/95970302.html>).
- Yan, Xiao-wei. 2016. "Wen Yi-Bo De Kunju." (Wen Yi-bo's Dilemma). *Energy*.
- Yang, David Da-hua. 2004. "Civil Society as an Analytic Lens for Contemporary China." *China: An International Journal* 2(1):1-27.
- Yang, Song. 2012. "Beijing Shizheng Gongyong Shiye Shishi Texu Jingying Zhidu Yanjiu." (A Study of Beijing Municipal Public Utilities Franchising System). in

- Beijing Gonggong Fuwu Fazhan Baogao: 2011-2012 (Annual Report on Public Service of Beijing), Blue Book of Beijing*, edited by Yun Zhang, Chang-kui Shi, Shi-hui Pang and Song Yang. Beijing: Social Sciences Academic Press.
- Ye, Ru-tang. 2000. "Ye Ru-Tang Fubuzhang Zai Quanguo Kancha Sheji Zixun Guanli Gongzuo Zuotanhui Shangde Jianghua." (Vice Minister Ye Ru-tang's Speech in the meeting of National Exploration, Design, and Consultation Management). *China Exploration & Design*.
- Yeh, Milton. 1994. *Dalu Renmin De Zhengzhi Canyu 1978-1992. (Mainland China People's Political Participation 1978-1992)*. Taipei: Shin Ying Press.
- Yin, Robert K. 2017. *Case Study Research and Applications: Design and Methods*. London: SAGE Publications.
- Youngs, Richard. 2002. *The European Union and the Promotion of Democracy: Europe's Mediterranean and Asian Policies*. Oxford: Oxford University Press,.
- Yue, Shi. 2000. "Wei Liao Geng Qing Jie De Wei Lai: 12 Yi Mei Yuan Dai Kuan Xiang Mu De Qian Qian Hou Hou." (For the Future of Cleaning: the Whole Story of 1.2 Billion Dollar Loan Projects). *International Finacing Magazine*.
- Zang, Xiaowei. 1999. "The Consolidation of Political Technocracy in China: The Fourteenth and Fifteenth Central Committees of the CCP." *Journal of Communist Studies and Transition Politics* 15(3):101-13.
- Zhai, Xin. 2003. "Zouwoguo BOT Fangshi Lifa Tanjiu." (Study of China's BOT Legislation). *Journal of Beijing Technology and Business University (Social Science)* 18(6).
- Zhang, Jing. 2010a. "Xinwang: Wu Jing-Lian Zai 1990." (New Hope: Wu Jing-lian in 1990). *Economic Observer*, pp. 41.
- Zhang, Qian. 2010b, "Jinzhou Huanjing: Benshi Jichu Xushi Daifa." (The Golden State Environment: Tamping Foundation and Coming into Play). h2o-china.com. Retrieved August 25, 2016 (<http://www.h2o-china.com/news/88000.html>).
- Zhang, Shou-gang. 2009a. "Gaoantun Huanbao Fanjizhan." (A Environmental Campaign in Gaoantun). *Southen Weekly*.
- Zhang, Zhao-hui. 2009b. "Jiemi Huanbao Heima Wen Yi-Bo." (Decoding Environmental Dark Horse Wen Yi-bo). *Entrepreneur World*.

- Zhao, Dingxin. 2010. "Authoritarian State and Contentious Politics." Pp. 459-76 in *Handbook of Politics: State and Society in Global Perspective*, edited by Kevin T. Leicht and J. Craig Jenkins. New York ; London: Springer.
- Zhao, Suisheng. 1998. "A State-Led Nationalism: The Patriotic Education Campaign in Post-Tiananmen China." *Communist and Post-Communist Studies* 31(3):287-302.
- Zhao, Tian-jian and Pei-jie Zhang. 2005. "Zhengqi Shenceng Hudong Tuidong Kezaisheng Nengyuan Shiye Kuayue Fazhan." (The Deep Government-Enterprise Interactions push Renewable Energy Business Development). *PR Magazine*.
- Zhao, Xiao-na. 2012. "Guojia Fuchi Zhengce Miji Chutai Quanguo Xian Jian Laji Fadianchang Fengchao." (National Supporting Policies Vigorously Issued, A Wave to Build Incinerators Emerged throughout the Country). *Nanfang Daily*, July 6, 2012.
- Zhou, Kan. 2001. "Guanzhu 3600 Yi Guozhai." (Focus on 360 Billion National Debt). *Civil Affairs Forum*.
- Zhou, Qing-jie and Xiao-hui Xu. 2008. "Lun Beijingshi Chengshi Shenghuo Laji Chuli De Chanye Zhengce." (The Industrial Policy of MSW Treatment in Beijing). *Social Science of Beijing* (4).
- Zhou, Xuan. 2010. *Beijingshi Chengshi Jichu Sheshi Jianshe Xiyin Waizi Wenti Yanjiu*. (A Study of Beijing City Urban Infrastructure Facility Attracting Foreign Capital). Beijing: China Economic Publishing House.
- Zhu, Q., J. Sarkis, J. Cordeiro and K. Lai. 2008. "Firm-Level Correlates of Emergent Green Supply Chain Management Practices in the Chinese Context." *Omega* 36(4):577-91.
- Zhu, Qinghua, Joseph Sarkis and Yong Geng. 2005. "Green Supply Chain Management in China: Pressures, Practices and Performance." *International Journal of Operations & Production Management* 25(5):449-68.
- Zhu, Qinghua, Joseph Sarkis and Kee-hung Lai. 2007. "Green Supply Chain Management: Pressures, Practices and Performance within the Chinese Automobile Industry." *Journal of Cleaner Production* 15(11-12):1041-52.
- Zhu, Zhang-geng, Dang-sheng Ji and Shao-long Zhang. 1992. "Beijingshi De Jihua Tizhi Gaige." (Beijing City's Reforms of Planning System). *Macroeconomics* (Z1).

Zhuang, Hui-ning 2011. “3600 Yi Guozhai Shi Zenme Yongde.” (How to Use 360 Billion National Debt). *Outlook Weekly*.

Zou, Lan. 2004. “Zhongguo Zhinang Jigou Dui Zhengfu Guanli Juece Guocheng De Yingxiang.” Retrieved: July 3, 2016
(<http://unpan1.un.org/intradoc/groups/public/documents/APCITY/UNPAN017712.pdf>).

APPENDIX A
INTERVIEWEE LIST

For all interviews, I provide additional information in the form of interviewees name, occupation, previous employment, and interview date. To meet the IRB's requirement that the private information of interviewees be protected, all names given here are pseudonyms.

A. Officials

Interview Date	Name	Institution	Previous Employment
June 21, 2016	Ren Xuan-ming	National Development and Reform Commission	
June 27, 2016	Li Zhi-wei	Beijing Municipal Commission	
June 27, 2016	Qin Zhi-hong	Beijing Municipal Commission	
June 29, 2016	Hu Wei-wen	Beijing Municipal Commission	

B. SOEs

Interview Date	Name	Institution	Previous Employment
June 16, 2016	Ding Zong-han	Beijing Huanwei Group	Official: Beijing Municipal Commission
June 17, 2016	Shi Zhi-hong	Urban Construction Institute	Official: Ministry of Construction
July 8, 2016	Wan Jia-ming	Everbright	
July 8, 2016	Yang Qi-xu	Beijing Enterprises Group	A member of Beijing anti-incinerator group
July 9, 2016	Zheng Zhen-xiang	Everbright	

C. Private Corporations

Interview Date	Name	Institution	Previous Employment
June 26, 2016	Mao Dan	Hangzhou Jinjing Environment Corporation	
July 7, 2016	Shen Jia-zheng	Sinolink Securities	
July 11, 2016	Zou Zhao-an	Sound Co.	
July 12, 2016	Mai Cheng-feng	Sound Co.	

D. Industry Associations

Interview Date	Name	Institution	Previous Employment
June 17, 2016	Qin Ya-ling	E20	
June 26, 2016	Zhuang Ying-mei	China Association of Circular Economy	Official: Beijing Development and Reform Commission
June 21, 2016	Fang Jia-ming	China Environment Chamber	Official: National People's Congress
June 29, 2016	Wang An-pei	E20	Official: Ministry of Construction Professor: Department of Environmental Science and Engineering, Tsinghua University
June 30, 2016	Zhu Guo-an	E20	SOE
June 30, 2016	Hong Jia-hua	China Environment Chamber Poten Enviro	

E. Academic Institutions

Interview Date	Name	Institution	Previous Employment
June 8, 2016	Lu Zhen-xiang	Renmin University of China	

June 10, 2016	Chen Shi-da	School of Environment & Natural Resources , Renmin University of China	
June 15, 2016	Xie Shun-wen	Chinese Research Academy of Environmental Sciences	Expert: Beijing Environmental Bureau

F. ENGOs

Interview Date	Name	Institution	Previous Employment
June 3, 2016	Feng Qi-xu	Rock Environment & Energy Institute	China Zero Waste Alliance
June 26, 2016	Tao Qian	China Zero Waste Alliance	
June 20, 2016	Shao Fan	Friends of Nature	

G. Media

Interview Date	Name	Institution	Previous Employment
May 29, 2016	Yuan Xiang-xuan	Energy	
May 31, 2016	Su Jian-hong	China Inspection and Quarantine Times	